Journal of College Placement

Formerly

SCHOOL AND COLLEGE PLACEMENT

IN THIS ISSUE

GUEST EDITORIAL - - - - - - - - - - - - - - - - - Harold W. Dodds 2
APPOINTMENTS - 6
LADDERS UP IN THE TEXTILE INDUSTRY - Frederick M. Feiker 7
INSTITUTIONAL CENTRALIZED PLACEMENT - - Roye R. Bryant 15
CAREERS IN THE PETROLEUM AND PETROCHEMICAL INDUSTRIES - D. R. McKeithan 25
THE PLACEMENT OFFICER LOOKS AT RETAILING - John E. Steele 31
PLACEMENT OFFICE SURVEY—1952 - - - - - - Robert D. McCabe 37
NEW CIRCULATION POLICIES AND DISCOUNTS - - - - - - - - - 42
THE OPPORTUNITY TODAY IN BANKING - - - - A. B. Crouch 45
NEW ENGINEERING CAREER BOOKLET - - - - - - - - - - - - - - 48
A PROGRAM FOR ENGINEERING STUDENT PLACEMENT - B. E. Lauer 51
PLACEMENT IN THE ALUMINUM INDUSTRY - - - - W. S. Idler 61
COMING MEETINGS - 66
WORKSHOP ON WOMEN'S PLACEMENT - - - - - - - - - - - - - - 66
INDEX TO VOL. XIII - 69
ADVERTISERS - 72

MAY, 1953

VOLUME 13 NUMBER 4

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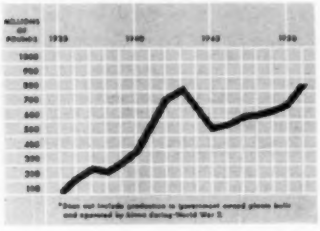

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GUEST EDITORIAL

"In all western life among the institutions that have succeeded best in upholding the essential integrity of life one of the most important is the university. If it fails no other instrumentality is available to fill the gap.

"The agencies within the university directly responsible for the nurture and dissemination of liberal learning are, of course, the undergraduate and graduate colleges of arts and sciences. No true university can rise above the source of its being, the level of its liberal arts scholarship and instruction. The humane values and the humane outlook are indispensable ingredients of liberal learning.

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HAROLD W. DODDS, President,
Princeton University,
Princeton, New Jersey.

INFORMATION FOR SUBSCRIBERS . . . .

JOURNAL OF COLLEGE PLACEMENT is issued four times a year—October, December, March, May. Subscriptions are $4.00 a year. Entered as Second Class Matter October 21, 1940, at the Post Office at Philadelphia, Pennsylvania, under the Act of March 3, 1879.

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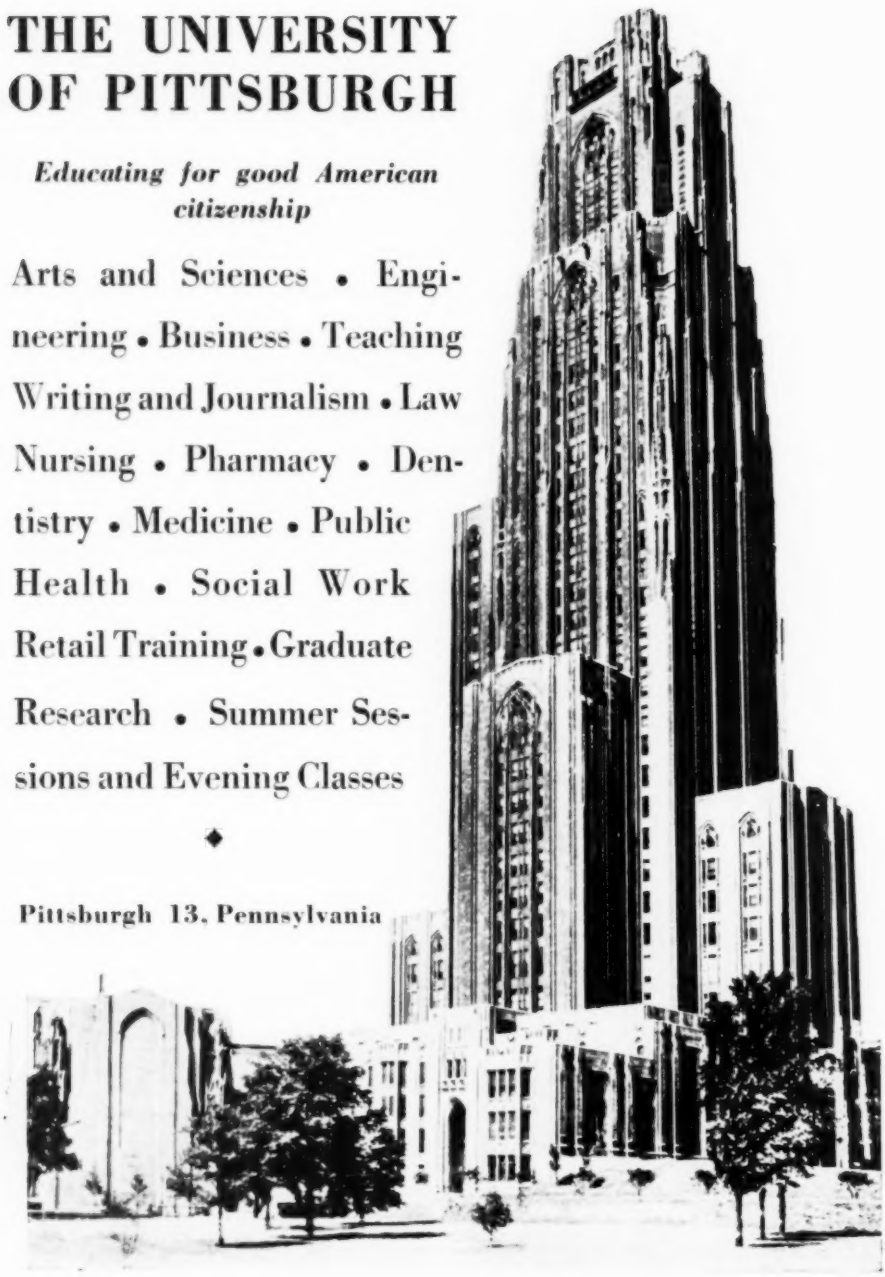

LEE A. KILGORE, *Assistant Manager*
Westinghouse Generator Engineering

A graduate of the University of Nebraska, he enrolled in the Westinghouse Graduate Student Training Course in 1927. He has contributed much to the design and development of large generators, motors and rectifiers and has authored many technical articles on these subjects.

W. H. DICKINSON, *Director*
Westinghouse Headquarters
Manufacturing Engineering

Enrolled in Westinghouse Graduate Student Training Course after graduation from Texas A & M in 1930. He came up through a variety of manufacturing positions in the company and was appointed to his present post in 1951.

CLARK C. FRAME, *Director*
Westinghouse Labor Relations

Enrolled in the Westinghouse Graduate Student Training Course after graduation from Penn State in 1930. Prior to appointment to his present post, he was Manager of Industrial Relations for Westinghouse East Pittsburgh divisions.

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APPOINTMENTS

Ida Landenberger assumed the Secretary-Editorship of this Association in June, 1946, just after she graduated from the University of Pennsylvania, where, as an undergraduate, she combined her major in economics with work in journalism and psychology.

During the past seven years, Miss Landenberger has seen the placement movement continue to mature with more colleges establishing offices to assist students with their job seeking compaigns and an increasing number of companies sending representatives to college campuses to recruit seniors. In the same period six regional placement groups have been organized and together with Eastern College Placement Officers provide a meeting ground for those engaged in this work.

As Secretary-Editor she has had a real part in these developments through her high editorial standards for the JOURNAL and competent internal administration of the Association.

Parker F. Enwright was born in 1925 at Orlando, Florida, of professional antecedents.

He attended Orlando public schools and Porter Military Academy, Charlestown. Saw combat service with a B-17 air crew in the Pacific and returned in 1946 to enter The University of the South, Sewanee, Tennessee. He was active in many extra-curricular fields there, a member of the Sigma Nu fraternity and national secretary for the post-war reorganization of Sigma Upsilon literary fraternity. After receiving his B.A. in English in 1950, he did graduate work at the University of Virginia.

Mr. Enwright has held the positions of Associate Editor of the Innes Publishing Company and Training Assistant with the Atlantic Refining Company, both in Philadelphia. He has had specialized training in typography and editorial procedures and also contributes poetry and prose to various magazines.

LADDERS UP IN THE TEXTILE INDUSTRY

FREDERICK M. FEIKER, *Dean Emeritus*
School of Engineering, George Washington University
Washington, D. C.

Dr. Feiker is now serving as Educational Consultant for the Textile Foundation.

He has had a long career as technical journalist, starting with the General Electric Company in 1906; then serving successively as Editor of "Factory" and "System" Magazines of Business and as Editor of the Electrical World, Chairman of the Editorial Board and Vice President of the McGraw Hill Publishing Company and Assistant to the Secretary of Commerce and Director of the Bureau of Foreign and Domestic Commerce of the United States.

Dr. Feiker is a member of many technical societies and committees and since retirement as Dean has been active as consultant in management and technologic problems for the United States Government.

EVERY industry has its specializations as well as characteristics shared in common by all industry. The problem of the personnel officer or of the young college graduate seeking advice as to a career, it seems to me, is to have as intimate an understanding as possible of these specializations. Therefore, in presenting a picture of the textile industry as one offering opportunities to college trained people, it seems important to make clear some of the unique characteristics of this very large industry.

Certain industries such as the electrical and chemical industries leaped centuries of rule of thumb, founded as they are on mathematics, physics and chemistry. In the electrical industry, for example, it is possible to design electrical equipment and to know before it is built exactly what it will do, how much it will cost, and how it will operate. The efficiency of an electric motor, for example, can be expressed in a mathematical formula before it is built. Relatively the electrical and chemical industries are very new and their growth and development follows a pattern of the growth and development of science in all its branches.

Quite contrary is the textile industry. Its roots go back to the dawn of civilization. If any curious reader will look up Judges VI in the Old Testament, he will find that shepherds in the Judean hills understood the hydroscopic qualities of wool. And the miracle of Gideon's fleece may be looked upon as a scientific experiment. In the same way, the history of the production, the spinning, and the weaving of the natural fibres—wool, cotton, silk—is lost in the mists of tradition. The textile industry has inherited a vast knowledge which has only within the past few years been subjected to scientific analysis. Moreover, the growth of the textile industry has been dependent in the past as in the present, on those intangible values of style, color and design that are part of the incredible variety of personal tastes. It is because the textile industry combines past and present, traditional and modern, that it offers the widest opportunity for trained minds in the areas of scientific research, manufacturing skills, merchandizing abilities, and artistic sensibilities. One may be trained in chemistry, in engineering, in art, in business, in management and find a place in the textile industry.

It is understandable, even to the layman, that the invention of man-made fibres such as rayon, nylon and other chemically prepared materials has introduced science to a traditional industry. These new fibres combined with the older natural fibres or adapted to specialized manufactured goods, have modified manufacturing processes and greatly widened the market for textile products, not only for clothing, carpets, draperies and other domestic uses, but for application to great new

industries. Automobile tires, for example, are a textile fabric impregnated with rubber, and millions of pounds of cotton and rayon are used in their construction each year. Highly diversified fabrics for industrial uses for filtering, screening and dozens of other uses are manufactured, and textiles in combination with plastics are available for house construction, window screens, airplanes, automobiles and many other products. The inventor, the designer, the manufacturer, small and large, find opportunities for building successful businesses in the textile field.

All this development means opportunities for trained men and women—trained in chemistry and physics for research and production; trained in engineering for invention, manufacture and operation of specialized machinery; trained in style, color and design to meet the individual tastes of millions of consumers; trained in economics and methods of management for the handling of labor and materials and machinery.

Six Divisions of Textile Industry

There are six great divisions of the textile industry employing men and women with specialized training and experience:

I. First is the division of Raw Materials, including wool, cotton, silk, flax, jute and the man-made or so-called synthetic fibres. This division needs men and women trained in technical and supervisory work. Industry employs thousands.

II. Next is the Yarn Manufacturing section, with its many sub-divisions, covering natural and man-made fibres, needing trained men and women for new manufacturing techniques, marketing and sales.

III. The third is the Fabrics Manufacturing section, hundreds of plants requiring technical and supervisory personnel trained in fabrics development, style, design and supervisory personnel trained in fabrics development, style, design and color chemistry dyeing and finishing.

Textile manufacturing plants are located in the South, New England and Middle Atlantic states, but substantial numbers are also operating in the Southwest, Midwest and Pacific areas.

The textile industries, consisting mainly of manufacturers of cotton, wool, rayon, carpets, jute, flax, hosiery, underwear, cordage, and dyers, finishers, bleachers and printers of those products rate second among all industries. There are over 14,000 establishments, employing 1,100,000 workers turning out over six billion dollars worth of goods. These are pre-war figures. Farmers as well as industrial workers look to the textile industries for their livelihood. For example, 1,600,000 families make their principal living by raising cotton.

IV. Fabrics for wearing apparel, decorations and household uses, with hundreds of plants and cutting establishments constitute the fourth and the same needs for trained men and women with a developed sense of color, design and style in relation to fabric manufacturing.

V. The fifth and rapidly growing field in the production of fabrics for industrial and mechanical use, involving applied research—new uses, new products, new materials—adapted in hundreds of ways for the specialized needs of industry—artificial leather, roofings, wall coverings, awnings, linoleums, power belting, automobile tires and fabrics. This calls for ingenuity and imagination and knowledge of machine design, production methods and specialized knowledge of adaptability of fibres and fabrics to new industrial uses.

VI. Finally the field of marketing and merchandising — wholesaling and retailing. Selling textiles demands a technical understanding of qualities of fibres, methods of constructing the fabrics. Trained textile men and

women in this very large division of the industry come up through the business to become proprietors, executives, technicians and superintendents.

Preparation Available

The task of introducing young men and women to these responsibilities and opportunities of the textile industry is unique. Various keys of learning may open doors to this wide-flung industry. One door opens into the hall of style, of color and design, and appeals to those intangibles of business demands—personal tastes and desire. The second door reveals the long corridor of patient scientific research—the study of natural fibres which vary with every crop of cotton and with every flock of sheep and the more recent man-made synthetics, rayon, nylon, orlon and others with their machine-made similarities. The third door leads to file cases of business economics and of management—sales and prices, manufacturing production and costs and the organization of men and machines for a profit.

Because of this high specialization in the industry and because of the fact that the industry combines traditions of the past with the latest concepts of science, there have been developed in the United States a group of specialized textile colleges and schools where young men and women receive training in textile engineering, textile manufacturing, in design, merchandising and other specializations.

An institution of learning like any other corporate organization is generally the lengthened shadow of a man. The beginnings of textile education in America resulted from the imagination and strength of purpose of a group of men who saw in the development of

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textile schools the answer to providing trained men to meet the industry's needs at that time.

Like many other specialized schools for instruction in manufacturing processes, the first schools for textile education were vocational in character, giving instruction only in design. The first was established as the Lowell School for Practical Design in Boston in 1872, not to be confused with the present Lowell Textile Institute which was established under different auspices. In 1878, the Rhode Island School of Design was founded in Providence. The first school to provide instruction in other branches of textile manufacturing was established in Philadelphia in 1884. From these vocational beginnings have come the present textile institutes giving instruction at the college level and granting Bachelor Degrees.

From the beginning, there has been close cooperation between the textile manufacturers and merchants and the educational institutes. The present Philadelphia Textile Institute, for example, grew out of the desire to promote the manufacturing of yarns which would compete in beauty and style with the textile exhibit sent from France to the Philadelphia Centennial Exposition in 1876. Inspired by these beautiful fabrics, the textile manufacturers of Philadelphia organized the Philadelphia Manufacturers Association in 1880 and included in the constitution the need for developing a center of instruction where design and style of textile fabrics could be taught in America.

In Massachusetts, the Lowell Board of Trade was instrumental in establishing the Lowell Textile Institute and the textile schools in New Bedford and Fall River. Similarly, as the industry developed in Southern states, under the leadership and counsel of mill men and textile engineers, schools of textiles were begun at the State College of North Carolina, at Clemson Agricultural College, at Georgia Institute of Technology and at Auburn, Alabama. In Texas, leaders of the public power companies saw the necessity of establishing technical education as a basis of state development and a textile school was established at Lubbock as a part of this educational development.

As a consequence, over the years some 10 institutes for specialized training in textiles (listed later in this article) have grown from a variety of beginnings, but today have a unique place of leadership in forwarding the training of men for the textile industry in the United States.

Activities of the Textile Foundation

In 1933, the directors of the Textile Foundation were requested to review the adequacy of the specialized education facilities for the training of men for the textile industry. Under the chairmanship of an advisory committee, consisting of Dr. Karl T. Compton, President of Massachusetts Institute of Technology; Dr. E. C. Brooks, Vice President of the University of North Carolina; Dr. Robert E. Dougherty, President of Carnegie Institute of Technology; a survey and recommendations therefrom were made. Without attempting to quote this report completely, three points may be lifted from it for the purpose of this article. First, that there was great opportunity for trained men in the textile industry, much greater than generally realized. Second, that, because the industry had grown from its beginning as a handicraft into an industry involving both highly mechanized machinery and scientific processing, the need for emphasizing the place of engineering and research in the educational program was important. Third, that the great field of distribution as well as manufacture had its related opportunities for trained men, particularly as questions of style, color, and design were

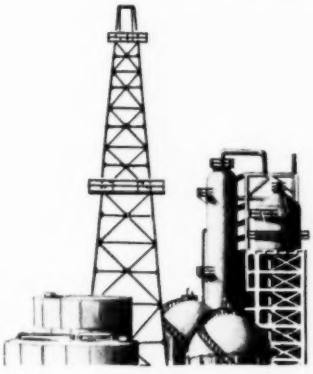
closely associated with manufacturing processes.

Perhaps the result of this survey would have been filed away pleasantly as have so many education surveys, if the heads of the textile schools and colleges had not endorsed so completely one suggestion in the report, namely, that there be organized a National Council of Textile School Deans. Working together over the years, this changing group of textile educators have exchanged experiences and developed facilities for the training of men and women for leadership in the various fields of the industry. Research funds totalling several millions of dollars have been established at a number of the centers of instruction. Biennial conferences have been held for the past 20 years and a close working partnership has been developed between industry and education.

Educational preparation for success in the textile industry, apart from a specialized education and the personal attributes of initiative and character, requires first, an understanding of the principles of design, style and color that distinguishes the textile business from all others, and second, a knowledge of the peculiarities of the raw materials, both natural and synthetic, from which textile products are made. The first has to do with the buyers' tastes and needs, the second with the chemical and physical characteristics of the fibres. Training, therefore, is a combination of science, art, management and business subjects.

Soundly established centers for this specialized training in textiles have long been available. In this respect the textile industry is unique as public-spirited manufacturers in both the north and south as early as 1878 recognized the value of textile education. Out

PETROLEUM



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ATLANTIC

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of this industry recognition of the value of trained personnel have been developed the present textile schools. Most are under the jurisdiction of their state educational systems. Others are privately endowed. All of the schools offer textile education at the college level, leading to the Bachelor of Science degree. Evening courses and special short time courses are also available in certain of the textile schools. Endowment funds for research and instruction costs in the amount of several millions of dollars have been raised privately to augment state and private endowment funds of several of the schools, and additional funds are being subscribed indicating the vital interest the textile industry is taking in this specialized training for its future leaders.

Facilities for Graduate Work

Graduate work for the degree of Master of Science for those who wish to continue with specialized study is offered at some institutions, including the Lowell Textile Institute, the Massachusetts Institute of Technology and the Georgia School of Technology. The degrees of Master of Science and Doctor of Philosophy are offered to a limited group of fellows at the Institute of Textile Technology at Charlottesville, Virginia, and at the Textile Research Institute located at Princeton, New Jersey, where a graduate program is associated with the Graduate School at Princeton University.

Working together over the years, this group of men who head these institutions have seen many changes take place in educational procedures. As a group, I believe it is correct to say that, their common objective is to seek to train men for leadership. They do not say they are training managers. They know that the qualities that make a manager—imagination, courage, willingness to take a chance—are associated with personality and character, but the schools are providing a place where the practices and processes of this branch of the textile industry are taught against the background of the practices of the industry—management, wages, costs, prices, profits. And finally, the partnership that has developed between industry and education essentially consists in finding ways to provide ladders up in the textile business for graduates who are given the opportunity to prove themselves.

Textile Institutes

Information with regard to the requirements for admission and of the degrees in course offered may be obtained by correspondence with Director of Admissions of the respective institutions listed below.

Alabama Polytechnic Institute
School of Textile Technology
Auburn, Alabama

Bradford Durfee Technical Institute
Fall River, Massachusetts

Clemson College Textile School
Clemson, South Carolina

A. French Textile School
Georgia Institute of Technology
Atlanta, Georgia

Lowell Textile Institute
Lowell, Massachusetts

New Bedford Textile Institute
New Bedford, Massachusetts

North Carolina State College Textile School
Raleigh, North Carolina.

Philadelphia Textile Institute
Philadelphia, Pennsylvania

Textile School
Rhode Island School of Design
Providence, Rhode Island

Textile Engineering Department
Texas Technological College
Lubbock, Texas

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TEMPLE UNIVERSITY

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INSTITUTIONAL CENTRALIZED PLACEMENT

ROYE R. BRYANT, *Director, Placement Service*
Southern Illinois University
Carbondale, Illinois

Dr. Bryant has had twenty-two years' experience as a public school administrator.

He is a member of Phi Delta Kappa, Kappa Delta Pi, National Education Association, National Institutional Teacher Placement Association, American Personnel and Guidance Association, American College Personnel Association, Midwest College Placement Association and is past president of the Illinois Teacher Placement Association.

Dr. Bryant received his B.Ed. degree from Southern Illinois University, his M.A. degree from the University of Illinois and his D.Ed. degree from Washington University.

Purpose of the Study

THE purpose of this study was threefold: (1) to make a detailed investigation of the organization and some of the practices of a selected group of institutional centralized placement offices (2) to get the reaction of employers toward some of the basic placement practices in order to ascertain whether the employers are getting the kind of service they prefer and (3) to ascertain whether the trend is toward or away from centralized placement service.

Scope of the Study

The study of placement offices was limited to the state universities and colleges, private universities and colleges, and municipal universities and colleges located within the continental United States with enrollments from 1,000 to 12,000 based on the enrollments as given in the 1949-1950 *Education Directory* of the United States Office of Education. The study was further limited to those institutions that were co-educational and predominantly white in attendance and that operated the centralized type of placement service including teacher placement. One hundred forty-four institutions were found to be in this category. Teachers colleges, junior colleges and most of the technical institutes were not included.

Methods of Procedure

Four methods of procedure were used in making the study: (1) use of questionnaires; (2) examination of placement office forms; (3) investigation of placement publications and (4) visitation of seven institutional centralized placement offices. Several business firms, industries and public schools were also visited relative to placement practices.

Two questionnaires were used in this study. A nine-page printed questionnaire was constructed and mailed to the directors of the 144 centralized placement offices which included all members of the population studied. One hundred forty-one of the directors filled out and returned the questionnaires. This made a 97.9% return. Forty-two states were included in the survey. A second questionnaire consisting of four printed pages was constructed and mailed to 128 employers in business and industry, and to 128 public school administrators. One hundred two or 80% of the questionnaires were answered and returned by business and industry. One hundred twelve or 87.5% were answered and returned by the school administrators. The mailing list for business and industry was compiled from "Corporations Planning to Recruit College Seniors in 1951-1952," SCHOOL AND COLLEGE PLACEMENT, 12:55-63, October, 1951. A few firms were taken from the list of recruiters who called at the placement office at Southern

Illinois University during the year 1950-51. The mailing list of public school administrators was compiled from the 1950-1951 *Education Directory, Counties and Cities*, of the United States Office of Education. While all sizes of public schools were included, a large per cent of the administrators were officers or ex-officers in national or regional education associations. The questionnaire to employers covered thirty-three states.

Validation of the Questionnaire

Most of the information in this article is a summary of the questionnaire sent to the directors of centralized placement. Therefore, some attention is given here to the validation of the questionnaire. Before the questionnaire was completed, criteria were determined for the questionnaire as a whole. The use of the criteria resulted in all questions being objective except three which were questions of opinion.

Two methods were used in attempting to validate the questionnaire before printing it. First, a jury of nine well known placement directors was selected to answer and criticize the questionnaire. The results indicated that the informants grasped what was wanted of them. The faults revealed in the questionnaire were rectified. These directors represented all types of institutions included in the questionnaire. They also represented five regional placement associations and eight different states. Toops recommends:

> After one or more subsequent revisions, and before publication, it (questionnaire) may be tried out on a small sample of the population for which it is intended.[1]

The second method used to validate the questionnaire was the personal interview with prospective respondents.

> One also may profitably interview a sampling of the prospective respondents for criticism and detection of ambiguities in the questions.[2]

Prospective respondents were interviewed for criticism of the questionnaire. In addition to these, a head of a statistics department in a university examined the instrument for the same purpose.

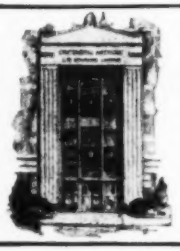
Validity of the Data

Koos says that the proportions of response required to afford a given degree of validity to the findings of investigations are still far from being known in detail.[3]

Validity really is increased, however, by increasing the size of the group.[4]

The questionnaire was sent to all members of the population studied. Shannon gives evidence to support the supposition that a 97.9% return should be an adequate sampling. He shows that the mean average return of the

[1]Herbert A. Toops, "Questionnaires," *Encyclopedia of Educational Research* (New York: The Macmillan Company, 1950), p. 949.
[2]*Loc. cit.*
[3]Leonard V. Koos, *The Questionnaire in Education* (New York: The Macmillan Company, 1928), p. 132.
[4]Francis F. Smith, "The Direct Validity of the Questionnaire Data," *Educational Administration and Supervision*, 21:574, November, 1935.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mail questionnaire is 65.16% on reputable research.[5]

Toops points out that it is frequently desirable to include cross check questions in order to check the consistency of the replies.[6] Several questions were placed in the instrument for this purpose. The answers proved to the investigator the consistency of the replies. Another attempt to validate the data was made by comparing the replies on the questionnaire with the information found in the same institution's placement forms, special bulletins, annual reports and catalogs. This examination showed the respondent answered the questionnaire with care. A further effort was made to test the validity of the data by personal observations and interview with seven of those who had answered the instrument. Information given by the informant in the interview was consistent with that given on the questionnaire. This not only adds to the reliability of the data, but also to the validity as it is difficult for data to be reliable without being valid.

Tabulation of the Data

Before the data were tabulated, the questionnaires were edited, and the one mailed to the placement directors was divided into the following enrollment categories in order to see what effect, if any, the size of the institution had on the organization and practices of the placement service: (1) those returned by institutions with enrollments from 1,000 to 1,999; (2) from 2,000 to 5,999, and (3) from 6,000 to 12,000. The data on the questionnaires were tabulated and cross tabulated on IBM machines.

Conclusions

The important conclusions derived from a study of the data presented in this study may be summarized as follows:

[5]J. R. Shannon, "Percentage of Returns of Questionnaires in Reputable Educational Research," *Journal of Educational Research*, 42:140, October, 1948.
[6]Toops, *op. cit.*, p. 948.

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1. Over half of the state and private senior colleges and universities in the United States with enrollments from 1,000 to 12,000 that are co-educational and predominantly white in attendance operate the centralized type of placement service including teacher placement. (Nearly 60% operate the centralized office including teacher placement, 21.6% operate the centralized office not including teacher placement and 18.6% operate the decentralized office.)

2. Institutions with the medium enrollment (2,000 to 5,999) have the smallest per cent (55%) of centralized placement offices.

3. A larger per cent (66%) of the private institutions operate centralized placement than is the case with the state colleges and universities (33%).

4. The majority (58%) of the centralized placement offices started as the centralized type. Of those that did not, the department or college of education in most cases (61%) was first to operate a placement office. The majority (59%) of the present centralized placement offices have been in operation less than ten years.

5. Often the centralized placement office in a larger institution is an outgrowth of a departmental faculty's interest, and often in the smaller institution it is an extension of the incidental assistance given to students by some department.

6. Within the last five years, there has been either a trend for the decentralized offices to centralize, or institutions which have never had a placement office have established one on the centralized plan.

7. Centralized placement programs are built within a common framework of principles, and they necessarily vary according to the institutions they serve. Many of the practices are common, regardless of whether the service is centralized or decentralized.

8. The types of placement service performed by the centralized placement office in the order of frequency are: placement of graduating seniors, placement of alumni, summer employment, part-time student employment, and placement of candidates for higher degrees.

9. "Placement Bureau," "Placement Office," or "Placement" is found in the title of most (71%) of the centralized placement offices.

10. The typical centralized placement head has been in his present position less than five years, is directly responsible to the president of the institution, has had previous experience in two or more fields of work, usually the public schools or business, holds a master's degree, has a title of "Director," has academic rank and does not devote full time to placement.

11. Regardless of the size of the institution, only one-third (32%) of the centralized placement offices have the advisory committee. The committee has fewer specific powers in the larger institutions. It assumes little power beyond the advisory stage in the institutions.

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12. Fifty per cent of the centralized placement heads think graduating seniors should be required to register with the placement office. Only ten per cent of the offices practice compulsory registration.

13. The most common procedure (81%) used to register the graduating senior is the personal call at the placement office.

14. The majority (85%) of the centralized placement offices require a personal interview with the new registrant before the registration is completed.

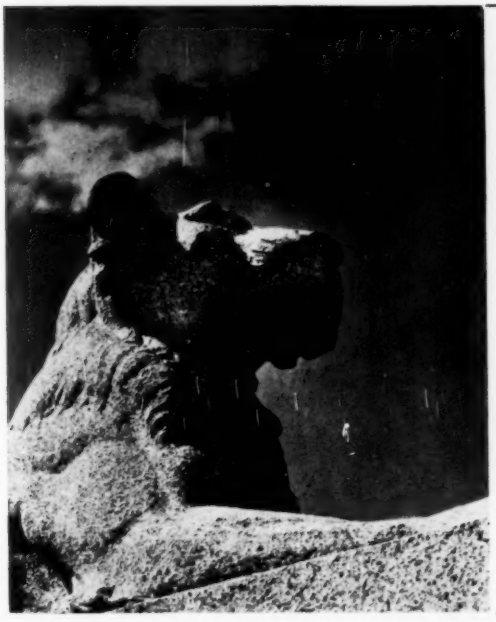
15. According to frequency of practice of the centralized placement offices, and according to the frequency of opinion of the employers, items of an academic nature in the registrant's credentials are of less value than are the items of a subjective nature.

16. There is a greater correlation between the rank order of what the public school employers want and in what the centralized placement offices have in a set of credentials, than there is between the rank order of what employers in business and industry want and in what the centralized placement offices have in the credentials. The rank order correlation coefficients are .88 and .74 respectively.

17. Sending letters to the employers of the registrants is the most common (55%) follow-up practice. Centralized placement offices do more follow-up with employers (55%) than with the employees (48%).

There is a close relationship between the follow-up procedures used by the centralized placement office and the type of follow-up service employers in business and industry want (correlation coefficient .93) and in what the public school employers want (correlation coefficient .89) from the placement service.

19. Limited staffs and budgets and unlimited work for the placement office tend to discourage personal visitation to places of em-



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ployment except to those places in nearby communities where alumni are employed.

20. In the majority (65%) of colleges and universities, there is no administrative relationship between the centralized placement office and the alumni office.

21. The majority (82%) of the centralized placement offices make an annual report. The most common objective (83%) of the report is a record for the institution.

22. Nine different placement years are used by centralized placement offices, but September 1 to August 31 is the one most frequently used (43%).

23. The cumulative card file is the most frequently used procedure (62%) to record vacancies.

24. Before 1938, most of the literature on placement was concerned with teacher placement. From 1938 to 1945, comparatively little was written. Since 1945, more has been written on placement in business and industry than in education.

25. A very interesting and significant fact noted in the literature and in the detailed study is the number of institutions that are reorganizing, unifying and coordinating their placement work in the hope of being able to furnish a more efficient and satisfactory type of service.

26. The organization of the service should be stable enough that no placement head could make structural changes without mature thinking, yet the organization should not be so hard and fast that modification of policies could not be executed.

27. It is possible that a candidate is not offered employment because of placement conditions beyond his control. It is obvious that the candidate is responsible for some of the conditions, the placement personnel for some, and some of the conditions are beyond the control of either; yet the candidate's chances of employment may be reduced by the presence of any one of the conditions. Sixty per cent of the employers indicated that the poor personal appearance of the candidate would detract from the chances of employment; 44% indicated the same about incomplete files of the candidate; 42% the failure of the candidate to report for the interview on time; 33% the candidate's lack of information about the employer's institution; 28% inadequate conference or interview rooms; 18% lack of courtesy of placement office personnel; 14% poor physical appearance of placement office and 10% poor location of placement office with respect to the campus.

28. The answer to the question, "In your opinion, is the trend of institutional placement service toward or away from centralized placement?" revealed that 96% (127 out of 132) of the directors of centralized placement and 86% (150 out of 174) of the employers answered "toward."

29. The evaluation of placement service is

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yet in its formative stages. Each placement office sets up its own criteria for evaluation, criteria which are subject to change with fluctuating conditions.

30. The organization and practices of centralized placement service on any campus should receive continuous examination and appraisal in terms of the best interests of the institution, registrant and employer.

31. As a final comment, it is safe to say that there is no "one best way" for all placement offices to operate. Too many variable factors are present in each case which preclude the formation of a rigid standardizing plan to be used in every instance.

Advantages of Centralized Placement

The chief advantages of centralized placement as found in this study include the following:

1. The administration of the institution is able to keep a better record of the over-all placement situation.

2. Any confusion which may exist because of multiple units is prevented since there is no doubt in either the student's mind or the mind of the employer as to where to go for assistance or information on matters of placement.

3. Placement of a student in one organization may lead to the disclosure of other vacancies in other fields of the same organization, which a departmental bureau might tend to ignore.

4. Personnel are available throughout the year and are continuously concerned with the institutions, candidates, employers and job opportunities.

5. The centralized placement office makes it possible for the academic departments to devote more time to their primary objectives of teaching and research.

6. Often in the teaching field, the candidate is required to teach in two or more areas and with the centralized placement office, the superintendent needs only to contact the one office on the campus to fill the vacancy.

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7. It provides economy of time, space, money and staff by reducing duplication of effort.

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9. It provides a convenient focal point for referral of placement matters for the institution, registrant and employer.

10. Because of its information in various areas of employment, and its wider range of contacts, it is able to help those who want to start their own businesses.

11. It can conveniently keep the records of the registrants up to date regardless of whether they are in the graduate school or are employed.

12. The centralized placement office provides a larger selection of applicants for the employer and a larger selection of job opportunities for the registrants.

Disadvantages of Centralized Placement

The chief disadvantages of centralized placement as found in this study are as follows:

1. Faculty members and especially heads of departments often feel that they have no part in the placement program.

2. It is difficult to find a placement head with experience and training in all the areas needed.

3. Placement personnel cannot personally know all the candidates.

4. Often there is too much routine placement office work for the benefit of the candidates.

5. It is difficult to contact students and faculty when colleges or departments are not on the same campus.

6. Faculty members lose contact with employers.

Recommendations for Further Study

During the course of this investigation, certain related problems were revealed. It is recommended that centralized placement officials, and perhaps employers, consider exploring them. These related problems include such problems as the following:

1. A study of criteria for judging effective placement and the application of such criteria in developing improved services for the institution, candidate and employer. Perhaps the development of criteria for judging the quality of placements made is needed most.

2. Research is needed on the responsibility of the centralized placement office to make placement service available to students dropped from the institution for low scholarship.

3. A comparative investigation to determine whether alumni benefit more from the

placement services of the alma mater or from the services of a private placement agency.

4. A comparative study of the efficiency of centralized placement services of state colleges and universities with those of private colleges and universities.

5. An investigation to determine the validity and reliability of the items of information in the confidential papers of the candidates registered with institutional placement offices.

6. A comparative investigation of the ethical practices used by employers and candidates in filling vacancies.

7. A comparative investigation to determine whether institutional placement service is more helpful to graduating seniors or to alumni.

8. A comparative investigation to determine whether the employer or the centralized placement officer can do more to sell placement to the institution's administration.

9. A study of the personal characteristics and opinions of employment interviewers who call at institutional placement offices to interview graduating seniors and graduate students for job opportunities.

10. An investigation to determine what per cent of college graduates accept their first position after graduation outside their field or major preparation.

11. A study of the academic training and work experience of employment interviewers who call at institutional placement offices to interview graduating seniors and graduate students for job opportunities.

12. A comparative investigation to determine the personal characteristics, academic training and employment success of the college graduate who secures employment through the institutional placement service as compared to the college graduate who obtains employment by other means.

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CAREERS IN THE PETROLEUM AND PETROCHEMICAL INDUSTRIES

D. R. McKeithan, *Director, Personnel Procurement and Guidance Division*
Phillips Petroleum Company
Bartlesville, Oklahoma

Mr. McKeithan, a veteran of 29 years in the oil industry, joined Phillips in 1937 as a production engineer in the production department. He assumed his present position in 1947.

He graduated from the University of Denver in 1924 with a B.S. degree in chemical engineering and at present is AIME representative on the Engineer's Council for Professional Development, committee on professional training. Mr. McKeithan is a Knights Templar Mason and a member of the Akdar Temple of the Shrine, Tulsa, Okla.

THE rapid growth of the petroleum industry and its expansion in recent years into the petrochemical field have created many attractive openings for college graduates who are interested in "a career with a future."

In the various departments of this country's many large and small oil companies are unlimited opportunities for almost every type of college graduate, both technical and non-technical, in virtually every line of endeavor. It is a recognized fact that salaries in the petroleum industry are higher than in practically any other industry. In addition, the field offers opportunities for business and professional growth seldom equaled elsewhere.

The World War II crisis transformed the comparatively young petroleum industry into a titan. Military demands shook off the shackles of this industrial giant and gave free rein to the inspiration of its technological forces. As a result, great strides were made quickly into new fields. New and better techniques were developed and whole new horizons were opened, subject to development by vision, foresight and imagination.

Today, petroleum is more vital than ever before to our way of life. Geologists, chemists, engineers and other technically trained personnel are daily adding to the welfare and comfort of the people all over the world through discovery and development of new products and better ways to make them.

The petroleum industry is not limited to the discovery and production of oil and gas alone. New products from both oil and gas are constantly being sought and discovered. Such commodities as motor fuels, lubricants, heating oils, etc., still comprise a major portion of the petroleum industry's business, but such products as liquefied petroleum gas, synthetic rubber, solvents, olefinic materials, plastics, fertilizers, sulfur compounds, synthetic fibers, carbon blacks and synthetic vitamin and drug compounds are rapidly assuming positions of importance in the future growth of the industry as a whole. Constant research and development by technically trained personnel are almost daily yielding new processes and products which supplement the activities of established facilities both in the domestic and foreign fields.

In an industry of the magnitude and diversification of the oil business it is necessary to have employees with training in all branches of engineering and science. The constant expansion, particularly in the petrochemical fields, rapidly creates job opportunities. Retirements, resignations and deaths also take their annual toll, many from among key personnel, creating promotions for others qualified by training and experience.

Most large integrated oil companies not only engage in the production, transportation and refining of crude oil; the transportation, distribution and sale of fuels, lubricants and specialty petroleum products; but also in the

production and processing of natural gas and gasoline, and in the distribution and sale of recoverable light hydrocarbons. In addition, many oil companies are engaged in the manufacture of petrochemicals obtained from natural gas and petroleum fractions.

Let us take a look at several of the general fields of activity of a large integrated oil company which is engaged in the manufacture and sale of petroleum products, natural gas and chemicals, for the purpose of showing the many opportunities for the college graduate.

Exploration for Oil and Gas

This field of activity consists of geophysical, surveying and mapping work, plus correlation of data and exploratory or wildcat drilling. The seismograph is used extensively for determining the location and character of geologic structures. Core drilling also is employed. Engineers, geologists and mathematicians using core and other available sub-surface data study and analyze the various oil and gas reservoirs to determine the magnitude of oil and gas reserves. Here are many opportunities for geologists, geophysicists, civil engineers and mathematicians.

Oil and Gas Production

This phase deals with drilling, equipping and producing oil and gas wells. Engineers are used in such occupations as surveying to locate lease boundaries and well locations, and for designing and installing tank batteries, crude oil treating facilities, field lines, pumping units, flow equipment, employee housing and salt water disposal facilities. Knowledge of reservoir engineering and conservation methods to carry on the vital work in secondary recovery and promote cooperative and unitized production for maximum total oil lift from producing horizons also is highly important. The technology of drilling muds and drilling mud additives finds application in this activity. Here are opportunities for petroleum engineers, and for electrical, civil and mechanical engineers.

Plant Operation (Manufacturing)

This phase includes the operation and maintenance of plant facilities for the refining and recovery of light hydrocarbons, the manufacture of chemicals or chemical intermediates and semi-commercial scale units and pilot plants. Process design and process engineering are vitally important in this phase of our operations, since changes in processing are required from time to time because of the ever-changing demand for improved quality in refined products and because of market fluctuations. Space considerations for some of these plants are enormous and the overall investment is often represented in the millions of dollars. Many of these units are often quite complex in their operations and involve numerous processing steps and principles. The more modern processes, both catalytic and non-catalytic, represent the latest in refining and engineering technology. Automatic controls and instrumentation, control and quality of products, distillation, extraction, propulsion pumps, refrigeration all are problems that offer a challenge to the engineering profession. Maintenance of such plants is a large and important item. Unlimited opportunities exist for chemical, mechanical, electrical and industrial engineers.

Transportation

In a highly competitive industry, transportation is a very important phase of the business and embraces traffic by air, land and sea. Most large corporations own and operate a fleet of airplanes, and many operate barges and tankers. Overland we have pipe lines for crude oil, natural gas and refined products; transports and delivery trucks for refined products, including LP-Gas and certain chemicals; and railway tank cars, hopper cars and box cars for transporting most of the products we manufacture and sell. Many opportunities

exist in this phase of the business for mechanical, electrical and civil engineers, as well as for specialists.

Sales and Service

This is a highly important phase of the oil business. Employees in this activity are the company's contacts with the consuming public. Many petroleum products require a high degree of technical skill for their proper and efficient utilization. Consequently, most companies employ skilled technicians and engineers for sales and service work, particularly in the sales of such products as carbon black, industrial lubricating oils, LP-Gas for industrial purposes, solvents and certain chemicals. Here are excellent opportunities for engineers with specialized training who have personality for customer contact work.

Research and Development

To insure future industrial growth and as a protection against the high rate of obsolesence of existing plants and equipment, all major corporations maintain large and competent staffs of chemists, physicists and other scientific and engineering personnel for research and development work. The constant search for new products and processes and for improvements in known products and processes is the primary responsibility of these groups. No phase of the energy business is overlooked by those engaged in research and development work. For example, a number of oil companies are active in the development of solid and liquid rocket propellants, in the manufacture of synthetic liquid fuels, synthetic rubber, plastics and other chemicals from natural gas, in the conversion of coal and oil shale and in nuclear research. One company now operates an Atomic Materials Testing Reactor for the Atomic Energy Commission. Unlimited opportunities exist in this important phase of our industry for technically trained personnel in all branches of the physical sciences and engineering and with varied degrees of academic training.

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This phase of our activity includes those who handle the design and construction of our industry's facilities, as well as those who are specialists acting in a consulting or liaison capacity with the operating organizations and the research and development groups. Design engineers and draftsmen prepare construction plans and specifications for such facilities as refineries, natural gasoline plants, chemical plants, gas compressor stations, pump stations, storage tanks, pipe lines, marine and pipe line terminals, wharfs and docks, service stations, warehouses, research and plant control

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Communications

Many of the large oil companies have extensive company-owned or leased telephone, telegraph and teletype lines, as well as radio-equipped mobile units operating in certain areas or plants. Such facilities are necessary in handling the dispatching and operation of long distance pipe lines. Some companies are now using microwave systems. The design, installation and maintenance of such systems offer opportunities for electrical and communications engineers.

Professional Development

It is common practice in the petroleum industry to provide for training of its engineering staff in all phases of its operations. Consequently, most concerns have either formal or informal plans whereby their young engineers are given opportunity to develop their professions by serving in various engineering capacities.

Petrochemicals

Miracles of modern chemistry are fast becoming commonplace through the magic of petrochemistry, a word so new it isn't found in most dictionaries. It is estimated that in 1940 there was a capital investment of $350,000,000 in the petrochemical industry. That investment has now grown to more than $2,000,000,000. Petrochemicals are the foundation of an important new industry, the simpler ones forming building blocks to synthesize the more complex compounds which are finding increasing application in widely differing fields and are serving to alleviate the shortage of many critical materials. More than half of the plastics now being manufactured are made from petroleum derivatives, as are numerous clothing fibers, fertilizers, insecticides, solvents, carbon blacks, synthetic rubber, synthetic vitamins and drugs, and many other products in the food, shelter, clothing, transportation and other fields. It has been said that over 500,000 different chemical products could be synthesized from oil and natural gas. Trained manpower is needed here in management, scientific and engineering fields.

Petroleum companies have played a major part in the growth of petrochemistry. Its future is a challenge to the professional talents of chemists and engineers and is limited only by their skill and imagination. It calls for huge expenditures for research and development of these truly versatile materials from natural resources, and huge sums to replace equipment which rapidly becomes obsolete. In this growth and developing opportunity lie careers with a satisfying and secure future.

Last, but by no means least, are the opportunities for advancing into management. The man with proper training and experience, and who is otherwise qualified, has an excellent opportunity to advance into top management administrative and executive posts. A career in petroleum and petrochemistry has an interesting and varied future in a field that is filled with romance. There is no industry more basic than that of producing fuel or energy; none that is more competitive; and, further, none where management is more courageous and willing to bet on the future.

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"THE PLACEMENT OFFICER LOOKS AT RETAILING"*

JOHN E. STEELE, *Commerce Placement Director*
Ohio State University, Columbus

Mr. Steele has gained his knowledge of placement functions through his job experience which covers business, industry, government and the university.

He has been Assistant Personnel Director for the United States News Publishing Corporation and the Bureau of National Affairs and has done production, maintenance and industrial relations work for the Carnegie-Illinois Steel Corporation.

Mr. Steele was Chief of Classification for the National War Labor Board and Personnel Examiner for the Indiana State Personnel Division. Before accepting his present position, Mr. Steele was Associate Director of the Bureau of Personnel Relations and Placement and Instructor in Management at Indiana University.

One of the six founders of the Midwest College Placement Association, he was program chairman for the first two meetings of this association and a former member of its Executive Committee.

Mr. Steele has written several articles for publication in journals of national circulation.

TO attract college graduates to retailing and to help them launch careers in this field, most organizations would find it very profitable to work through the placement offices at the various schools from which they would like to recruit potential executives. Since the end of World War II most of the colleges and universities in the United States have established placement offices to serve as clearing points on all job information, and to facilitate contacts between prospective employers and graduates from their respective schools.

This service has grown so rapidly since 1946 that there are now seven regional placement associations throughout the country, trying to do the same things in college placement work that the N.R.D.G.A. is doing in retailing. The quarterly publication entitled JOURNAL OF COLLEGE PLACEMENT serves as a liaison among these regional placement associations and also among placement directors throughout the country.

The above information should give you a better concept of the role of the college placement director and his importance to you as a major source of information regarding applicants whom you may wish to consider as potential executives for your respective companies.

*Based on a talk given before the National Retail Dry Goods Association, 42nd Annual Convention, January 15, 1953.

To obtain specific data we solicited the opinions of my colleagues in college placement work, contacted the graduating students at Ohio State University and summarized my personal opinions on the field of retailing.

I. Survey of College Placement Directors

To obtain the opinions of my colleagues, I sent a one-page questionnaire to 109 selected (not strictly religious, science or engineering schools) college placement directors throughout the country who should have contact with firms in the retailing industry. We received 69 completed questionnaires from most of the states, giving a response of 63%. The response came from the following types of schools:

Type	*No.*	*%*
Liberal Arts	39	57
Business	3	4
Universities	27	39

Since the detailed statistics and other data compiled from these questionnaires are too numerous to enumerate individually, I would like to call your attention to the following highlights of this study:

1. Our first question was designed to learn the extent of specific training offered in the retailing field in colleges throughout the country. The great majority of colleges responding did not have a major curriculum in the

field of retailing, and about one-half of the responding schools provided specific courses in retailing. By specific courses we are thinking of advanced courses beyond the Principles of Marketing course which is typically thought of as an introductory course in the field of marketing. Therefore retailers cannot expect to find trained graduates in the field of retailing in most of the schools throughout the country.

2. Our second question was designed to ascertain whether or not our selection of placement directors was warranted. We were pleased to find that approximately 90% of the schools actually had retailing firms visit their campus for recruiting purposes. 62% of the placement directors stated that retailing was not a popular field with their students.

3. The next part of our study was designed to ascertain whether or not the poor recruiting results were due to the caliber of recruiters being sent to the college campuses by retailing firms. The great majority of placement directors throughout the country (91%) stated that the caliber of retailing recruiters compared favorably with that of recruiters from other types of businesses and industries; however, only 25% of the placement directors stated that retailers got their share of potential executive candidates. On the basis of this finding, the managements of retailing firms will have to look elsewhere to find the cause for the little success obtained in college recruiting.

4. The college placement directors were asked to indicate specific reasons why retailing recruiters were not getting their share of college graduates. The following reasons were stated most frequently:

a. Starting salary rates are too low
b. Lack of student interest in retailing
c. Progress for first 3 to 5 years is too slow
d. Work week is too long

5. Placement directors throughout the retailing industry could attract a greater number of college graduates if it would—

a. Encourage retailing firms to offer higher starting salaries.
b. Publicize the opportunities in retailing and the types of training provided.
c. Shorten the working hours and the amount of Saturday work throughout the industry.

Why is it that retailers are so sensitive and go on the defensive immediately whenever the subject of starting salaries is mentioned? Placement directors generally feel that this reaction is due to a reluctance to pay more to employees because of a lack of knowledge regarding the competition for college graduates.

6. Here are suggestions offered by college placement directors for individual retailers to help them attract a greater number of college graduates for their respective firms. The three major suggestions offered in this part of the study are as follows:

a. Improve your own recruiting program. We would like to call your attention to an article in the December, 1952, issue of SCHOOL AND COLLEGE PLACEMENT by P. G. Martin entitled "Hints for More Effective Campus Recruiting"; his suggestions will be very helpful to you.
b. Offer a sound executive training program.
c. Provide part-time work for college students and *sell* them on the retailing field as a career.

II. Survey of Graduating Students at Ohio State University

Here is a small sample of student thinking regarding the retailing field.

We sent a one-page questionnaire to 100 current graduates (those who are registered with our office for placement assistance and who completed their degrees either in December or March. Of the 47 questionnaires which

were returned, the following statements may be of interest:

1. Our first question was designed to learn whether our students were told of the opportunities in the retailing field. All incoming students are required to take a survey course which includes talks by the faculty regarding their various fields of specializations. This question was designed to ascertain whether or not any further information regarding the retailing opportunities was brought to their attention in their advanced courses. About 60% of our current graduates stated that they had also heard about the opportunities in retailing in at least one advanced course.

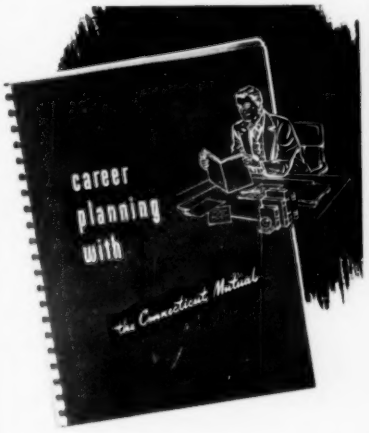
2. This part of the study is of extreme importance to all retailers. We asked our students how many of them had had either part-time or full-time work experience in a retailing establishment. 74% of the respondents stated that they had had such experience. Of this 74% the majority (52%) stated that *no attempt whatsoever was made by the employers to interest them in a retailing career!* This illustrates a definite weak point on the part of all retailers, and we believe each firm should take immedaite steps to discuss the opportunities in retailing with the part-time and full-time college students presently employed on the payroll.

3. Regardless of their major subject, we asked our students next to express what they considered the good points of the retailing field. The four major preferences were as follows:

a. Opportunity for advancement (23%)
b. Variety of work (21%)
c. High future income (16%)
d. Meet all kinds of people (16%)

4. Our students were next asked to list their dislikes toward the retailing field regardless of their major subject. The major aversions expressed by our students are as follows:

a. Low starting salary (25%)
b. Working hours (22%)



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Note the similarity between the aversions of our students and the statements given by college placement directors as to why retailers were not getting their share of college graduates. Notice particularly the comments on low starting salary and the working hours.

Please note that our statements differ quite a bit from those given by Professor Ellsworth in a survey he made of retailing majors. You will find that students do not always consider hours and wages as being very important when choosing a major subject. However, when they are graduating and have had interviews and offers of employment from a number of firms, you will find that the subject of hours and wages becomes very important in the final decision. Check with any placement director in your locality and we are sure you will find the same information at that particular school.

III. Personal Comments

Here are some suggestions obtained from interviews with students, alumni, representatives of the Ohio State Employment Service, placement directors and our own reading. On the basis of such research, we would like to make the following observations:

1. Some employers in the retailing industry are about 20 years behind times in terms of personnel practices. Unfortunately, these leave a bad impression for the industry, and you N.R.D.G.A. members suffer. Current personnel thinking indicates that *all* employers should treat employees as human beings, not as necessary expensive items to dispose of your merchandise; that you should lead, not drive, employees; that you should develop management training programs based on long-range (20 years) manpower planning and not depend on promoting the roughest, toughest supervisor in your organization or the best salesman.

Through continuous and energetic promotion of good personnel practices, retailers who are looking ahead will be able to offset the poor impressions made by some retailing firms.

2. We need more statesmanship and less greed for the dollar. In an address entitled "The Age of Distinction," given on October 2, 1952, President Leland I. Doan, of the Dow Chemical Company, stated:

"I recall one critic of British capitalism, who, in explaining some of the underlying causes for the rise of socialism in England commented that private enterprise in England had been private enough, but unfortunately not very enterprising.

"I think you are familiar with the story—exploitation of men, of equipment, of resources. And certainly American capitalism has not been entirely guiltless on these counts. But we talk quite a lot about our 'enlightened' capitalism in this country. I certainly hope we are enlightened, for we have come by some of it the hard way . . . and if we get the chance to use it, and fail to use it, we shall probably not have another chance."

3. Use positive techniques to encourage college graduates to make their careers in retailing. One personnel man in a prominent retailing firm recently told a group of students, "we won't hold a college degree against you," and later he advised them to apply directly instead of going through their college placement office. Such advice did not endear him to the students nor to the placement directors, but most of all it hurt the entire retailing industry because some of those students had contemplated a career in retailing, but were discouraged by such comments. Another example of a negative technique would be that of a supervisor who describes how tough things were twenty years ago when he got started in the retailing field, and implies throughout his conversation that all applicants today should expect the same situation. Such an approach will obviously discourage the applicant from making his career with that

individual firm, and will also discourage him from making his career in the retailing field.

4. Make relatives earn their high-level positions. We constantly hear from our alumni regarding the officious and domineering son, nephew or other relative of top management, who arbitrarily reprimands employees in the presence of others, overrules supervisors without checking with them, tries to extract ten dollars of performance from each employee for every dollar paid that employee, etc. Even relatives could profit from training in scientific management, applied psychology and personnel management. It's poor business to promote *anyone until* that person has demonstrated that he has the qualities for the next job, *particularly* the ability to lead others!

5. De-emphasize the commercialization of Christmas. Regardless of your religious beliefs, the tradition of Christmas should get your respect and consideration. Every person with whom we discussed this topic (and remember we are all your customers) has stated that his respect for the retailing industry would be *increased* if Christmas selling started after Thanksgiving instead of before Hallowe'en.

6. Increase starting salary rates. Throughout the country retailers paid from $20 to $150 less per month than other employers. On a weighted average basis, the retailing field is $67 per month below the average of other industries competing for the same manpower, in the opinion of college placement directors. At Ohio State University, our June, 1952, average starting rate for *men* was $313 per month, while the retailing average for men was $228 per month. With an $85 per month differential for men, do you still wonder why retailing does not get its share of male graduates from our college? Other placement directors relate similar experiences.

The starting rates for *women* are much more competitive than they are for men. For June, 1952, graduates from Ohio State University, the average starting rate for women was $221 per month, and the average starting rate for women entering retailing was $210 per month. Because this differential is much closer than the difference for men, we have had very little difficulty in placing women in retailing opportunities.

7. Participate in placement organizations and personnel activities outside of the retailing field. You have your own specialized personnel organizations, but there is too much "internal" type of thinking and you need greater breadth of vision and knowledge of what other industries are doing. After all, your competition for college graduates is composed of other industries, not fellow retailers.

8. The last suggestion has to do with one of the major problems in college recruiting for retailers—the lack of interest in this field on the part of students. This is a problem that needs the attention aid cooperation of the N.R.D.G.A. as well as every retailing concern throughout the country. Some of you are familiar with Professor Brand's article entitled *Why Do They Snub Retailing?* published in the October, 1952, issue of the *Stores* magazine. Regardless of whether or not you agree with his statements, we hope you will appreciate the fact that the supply of applicants with potential executive ability will constantly diminish for you unless the retailing industry stimulates more interest in its field on the part of high school and college students.

Conclusion

We were asked to give a straight-from-the-shoulder talk on why retailers are not getting an adequate share of potential executive candidates out of universities and colleges. If you members of the National Retail Dry Goods Association work through your association and also individually on the above suggestions, and sell your industry as well as you now sell your merchandise, you will get a greater percentage of college graduates in the years to come.

- electrical engineers
- physicists
- mechanical engineers

HUGHES

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PLACEMENT OFFICE SURVEY—1952

ROBERT D. MCCABE, *Director of Placement*
Fordham University, New York

Mr. McCabe has been Director of Placement at Fordham University since March, 1946. He holds degrees from Fordham College and St. John's University and is a member of the American Bar Association, New York State Bar Association, Catholic Lawyers Guild, National Institutional Teacher Placement Association, American College Personnel Association, Eastern College Personnel Officers and New York Personnel Management Association. He also serves as a member of the Board of Directors of the United States Civil Service Commission's Junior Management Development Program for the States of New York and New Jersey and is a member of the Executive Committee of the College Federal Agency Council.

IN 1949 I undertook to obtain by questionnaire information regarding the placement offices of some 70 prominent Eastern colleges and universities. The data supplied by the 57 schools were reported on at the October, 1949, meeting of the Eastern College Personnel Officers at Poland Springs, Maine, and were also set forth in the May, 1950, issue of SCHOOL AND COLLEGE PLACEMENT. In May, 1951, an abridged version of the report was carried in "Employment Opportunities for Student Personnel Workers in Colleges and Universities," published by the Bureau of Labor Statistics of the U. S. Department of Labor.

Since I felt that considerable progress had been made in the field of placement in the intervening three years and since the only facts and figures available seemed to be those compiled in 1949, a slightly revised questionnaire was sent this past summer to representatives of 82 colleges and universities. Fifty-two (or 63%) of the colleges replied although six unfortunately did not include salary figures. In view both of the interest generally expressed in the results of this survey and of the anonymity accorded those participating, the failure of a larger number of placement officials to take part is somewhat discouraging.

Of course it may be that those returning questionnaires are the same ones who replied in 1949 and that the inclusion of an additional 12 schools elicited no information and served only to pull down the percentage of replies. Whatever the reason, and I can only speculate regarding it, I feel that we nevertheless have been able to achieve sufficient breadth and depth of coverage to provide some interesting and useful statistics. A brief summary of this material was presented verbally at the October, 1952, meeting of the Eastern College Personnel Officers in Lenox, Mass. The survey results, broken down into categories by type and size of school, are set forth below in narrative form and are followed by a table showing much of the data obtained from the questionnaire.

Results By Type of School

I. ALL SCHOOLS

A. The salary range for placement directors was $12,000 to $2,600 for an average of $5,773.50 which represents an increase of $1,354.39 over the 1949 average.

B. Staff size ranged from 15 down to 1 with only four schools employing 10 or more people in addition to the director. Three of these four were schools with 10,000 or more students and staffs of 15, 11 and 11 respectively, while the fourth with a staff of 10 was a school of 1,000 to 2,499 students. The average was 3.53 as against 3.25 in 1949.

C. Promotional expense ranged from $3,010 down to $80 with four schools not answering this question. Seven schools spent $1,000 or more on this item, three being schools with 10,000 or more stu-

dents, one a school with 2,500 to 4,999 students, one a school with 1,000 to 2,499 students,* one a school with 500 to 999 students and one with less than 500 students. The average was $591.15 as against $367.47 in 1949.

D. Relative rank of placement directors was reported as follows: Dean 4, Assistant Dean 1, Professor 16, Associate Professor 7, Assistant Professor 6, Instructor 2 for a total of 36 usable replies to this question. It should be noted that one of those listed as Professors gave his rank as Professor *or* Dean and one indicated Dean to be a promotional possibility for him.

II. Men's Schools

A. The salary range for placement directors was $12,000 to $4,200 for an average of $7,746.15 which represents an increase of $2,841.75 over the 1949 average. The three highest salaries, $12,000 and two at $10,000, went to directors at schools of 1,000 to 2,499 students and 5,000 to 9,999 students respectively.

B. Staff size ranged from 11 down to 1, exclusive of the director, for an average of 3.31 compared with 3.90 in 1949.

C. Promotional expense ranged from $3,010 down to $170 for an average of $767.67 as against $411.72 in 1949.

III. Coeducational Schools**

A. The salary range for placement directors was $8,500 to $2,600 for an average of $5,458.

B. Staff size ranged from 15 down to 1, exclusive of the director, for an average of 4.05.

C. Promotional expense ranged from $1,425 down to $95 for an average of $647.50.

IV. Women's Schools

A. The salary range for placement directors was $6,000 to $2,820 for an average of $4,355 which represents an increase of $739.21 over the 1949 average.

B. Staff size ranged from 6 to down to 1 exclusive of the director, for an average of 2.14 compared with 1.76 in 1949.

C. Promotional expense ranged from $800 down to $80 for an average of $340.33 as against $329.15 in 1949.

Results By Size of School

I. 10,000 or More Students

A. The salary range for placement directors was from $8,500 to $6,500 with an average of $7,775 which represents an increase of $1,475 over the 1949 average.

B. Staff size ranged from 15 down to 8 for an average of 11, exclusive of the director as compared with 9.4 in 1949.

C. Promotional expense ranged from $1,425 down to $825 for an average of $1,154 as against $493.75 in 1949.

II. 5,000 to 9,999 Students

A. The salary range for placement directors was from $10,000 down to $4,600 for an average of $6,529 which represents an increase of $2,210.67 over the 1949 average.

B. Staff size ranged from 7 down to 2, exclusive of the director, for an average of 5 as compared with 5.5 in 1949.

C. Promotional expense ranged from $962 down to $128 for an average of $592 as compared with the 1949 average of $558.67.

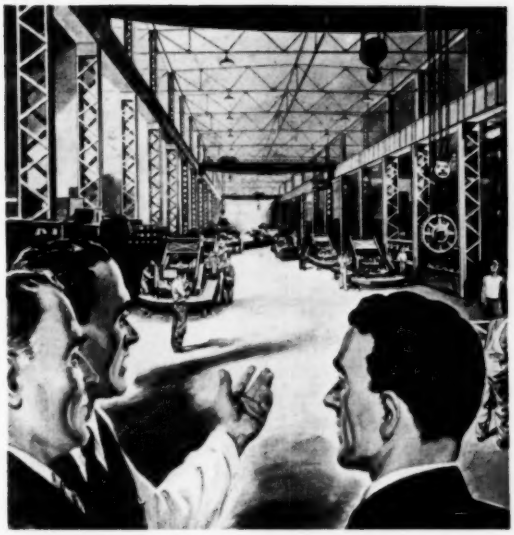
III. 2,500 to 4,999 Students

A. The salary range for placement directors was from $7,680 to $3,600 for an aver-

*This school spent the largest amount ($3,010) and reported a placement budget of $45,000 to $50,000.

**No comparisons with 1949 are possible as this category was not covered at that time.

we think engineers are people



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age of $5,576 which represents an increase of $1,176 over the 1949 average.

B. Staff size ranged from 7 to 1, exclusive of the director, for an average of 3 as compared to 3.25 in 1949.

C. Promotional expense ranged from $1,330 down to $95 for an average of $431 as compared with the 1949 average of $640.83.

IV. 1,000 to 2,499 Students

A. The salary range for placement directors was from $12,000 to $2,600 for an average of $5,706 which represents an increase of $1,306.72 over the 1949 average.

B. Staff size ranged from 10 down to 1, exclusive of the director, for an average of 3 as compared with 2.6 in 1949.

C. Promotional expense ranged from $3,010 down to $100 for an average of $723 as against the 1949 average of $462.44.

V. 500 to 999 Students

A. The salary range for placement directors was from $8,000 to $3,000 for an average of $5,223 which represents an increase of $923 over the 1949 average.

B. Staff size ranged from 4 down to 1, exclusive of the director, for an average of 1.33 as compared with the 1949 average of 1.

C. Promotional expense ranged from $1,100 down to $80 for an average of $429 as against an average of $301.18 in 1949.

VI. Less Than 500 Students

A. The salary range for placement directors was from $9,500 to $2,820 for an average of $4,964 which represents an increase of $1,810.67 over the 1949 average.

B. Staff size ranged from 2 to 1, exclusive of the director, for an average of 1.60 as against the 1949 average of 1.

C. Promotional expense ranged from $1,600 down to $200 for an average of $619 as compared with an average of $291.37 in 1949.

	Salary of Director	*Size of School (a)*	*Size of Staff (b)*	*Location*	*Expense Allowance (c)*
1.	$12,000	IV	10	Urban	$3010
2.	10,000	II	7	Urban	500
3.	10,000	II	6	Urban	962
4.	9,500	VI	2	Urban	1600
5.	8,500	I (coed)	8	Urban	1340
6.	8,100	I	11	Both	825
7.	8,000	V	1	Urban	580
8.	8,000	I (coed)	15	Urban	1425
9.	8,000	V	1	Urban	570
10.	7,680	III (coed)	7	Rural	1330
11.	7,680	III (coed)	2	Rural	280
12.	7,500	V	1	Urban	828
13.	7,000	IV	1	Rural	365-525
14.	6,500	I (coed)	11	Urban	1025
15.	6,450	III (coed)	2	Urban	560
16.	6,000	II	4	Urban	128
17.	6,000	IV (w)	6	Urban	550
18.	5,700	IV (coed)	1	Rural	860
19.	5,500	II (coed)	5	Rural	597-920
20.	5,400	V (w)	4	Urban	175
21.	5,400	V	2	Urban	250

22.	5,400	III (coed)	3	Urban	410
23.	5,000	V (w)	2	Urban	400
24.	5,000	V	1	Urban	415
25.	5,000	III (coed)	3	Rural	370
26.	5,000	V (w)	1	Rural	400
27.	5,000	II (coed)	7	Rural	550
28.	4,950	IV (w)	3	Urban	425
29.	4,700	VI (w)	1	Urban	365-415
30.	4,700	III (coed)	3	Rural	300
31.	4,700	VI (w)	2	Rural	220
32.	4,700	IV (w)	3	Rural	220-410
33.	4,600	II (coed)	3	Urban	
34.	4,600	II (coed)	2	Suburban	825
35.	4,200	V	1	Rural	212
36.	4,200	IV (coed)	1	Rural	578
37.	4,200	III (w)	2	Urban	100
38.	4,200	IV (coed)	1	Suburban	950
39.	4,000	V (coed)	1	Urban	160
40.	4,000	V (w)	1	Rural	155
41.	3,600	III (coed)	1	Urban	95
42.	3,400	V (w)	1	Urban	800
43.	3,100	VI (w)	1	Urban	200
44.	3,000	V (w)	1	Urban	80
45.	2,820	VI (w)	2	Urban	710
46.	2,600	IV (coed)	1	Suburban	100
47.		V	1	Rural	1100
48.		V (w)	1	Rural	305
49.		IV	1	Rural	170
50.		V (coed)		Urban	.....
51.		IV	3	Urban	.....
52.		I (coed)		Urban	.....

(a) I. 10,000 or more students. II. 5,000 to 9,999. III. 2,500 to 4,999. IV. 1,000 to 2,499. V. 500 to 999. VI. Less than 500 students.

(b) Includes full time employees other than director.

(c) Included only hospitality, field trips, conference attendance, memberships, books and magazines, etc.

(w) Indicates women's colleges.

In connection with the above it may be of interest to note that the average salary for personnel managers in private industry as reported in the New York State Industrial Bulletin was $7,162 in 1951 as compared with the 1952 average of $7,775 for placement directors in schools of 10,000 or more students and of $7,746.15 for placement directors in men's schools regardless of size. While I am not trying to start a rush of applicants toward the campus placement offices, I think it may help to raise the sometimes all too low morale of placement personnel to see that this half lives as well as the proverbial other half.

As in the previous summary, a number of interesting comments and observations were made principally relating to the multiplicity of duties which fall to the lot of some of the less fortunate placement directors. Space does not permit me to discuss them all or to set forth figures on clerical staff. However, I should like to conclude by quoting at some length from one questionnaire which points up both an undesirable placement situation and at the same time possibly accounts for some schools' inability to supply figures even though willing to participate in the survey.

"Placement operations at this institution, unfortunately, cannot be fitted into your questionnaire. Our organization of such activities is not centralized in one, full-time office.

"Placement with us is a subsidiary activity of the registrar's office, in cooperation with department heads. Opportunities, industrial personnel recruiters and students seeking placement may be handled either by the registrar or a particular department head. It is a most informal arrangement which realizes some results, but is not a vital asset to graduating students or alumni.

"It is impossible to analyze placement activities in terms of time, number of inquiries received, etc. All persons concerned with these activities do whatever is necessary when occasion demands, but do not keep a record of time spent or allocate any of their budgets to these details."

NEW CIRCULATION POLICIES AND DISCOUNTS

Last year we received a number of requests from industrial users of the Journal *for large quantities of the October issue to be sent to branches and agencies for local recruiting programs. We were unable to supply most of these because, as a non-profit organization, we must hold over-printing to the minimum.*

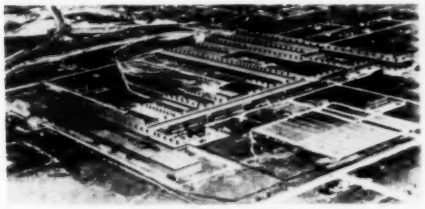
In the future we will welcome advance orders for any number of copies of any issue of the Journal *if commitments are in our office by the first of the month preceding month of issue, except the October number, for which orders should be received by August 22nd.*

A discount of 5% will be allowed on all orders for 25 or more copies, provided the order is billed to one address, although the copies of the Journal *may be mailed to diverse addresses.*

We hope that companies whose local agents recruit independently will avail themselves of the October listing of campus placement contacts and dates in this way since they secure the discount by receiving a single invoice at the home office while placing this most valuable recruitment aid directly in the hands of their representatives.

REYNOLDS METALS FACTS

Formed in 1919, the Reynolds Metals Co. now operates 27 plants in 15 states, including wholly owned subsidiaries, and is the nation's second largest aluminum producer. The company has been expanding ever since that date, and even now is building two new plants in Texas and Arkansas.



McCOOK, ILLINOIS

Wide varieties of opportunities are offered graduates by Reynolds Metals because of the intricate processes necessary to produce aluminum. These are: Bauxite mining (Arkansas, Jamaica, B.W.I.); chemical production of alumina (Arkansas); electrolytic reduction of alumina to aluminum (Arkansas, Oregon, Washington, Alabama, Texas); sheet rolling (Alabama, Illinois); extruded products (Michigan, Arizona); foil rolling (Alabama, Kentucky, Virginia); foil printing (California, Missouri, New Jersey, Kentucky); structural shapes, rod, cable (Alabama); powders and pastes (Kentucky); fabrication of aluminum industrial parts and building products (Kentucky).

The above operations provide attractive opportunities for graduates in Chemistry, Chemical Engineering, Metallurgy, Mechanical Engineering, Electrical Engineering, Civil Engineering, Industrial Engineering, Accounting, Mining, Geology, and others.

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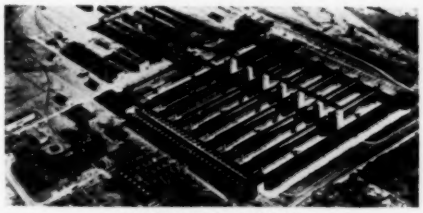

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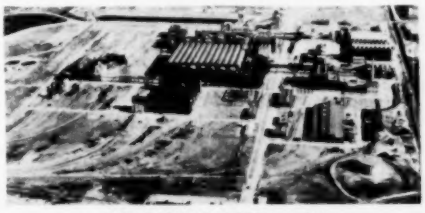
Why are they "attractive opportunities?"—Reynolds Metals Co. is the fastest growing company in one of America's most expanding industries — Aluminum. War or peace, aluminum always has high priority. New uses for aluminum are being discovered daily. In this type of situation advancement is rapid.

Believing that technical graduates have acquired sufficient theory it is the Reynolds policy to place trainees for production, engineering, and accounting openings in an on-the-job situation—after preliminary orientation. Trainees for sales engineering, and, in many cases, non-technical sales may be assigned to production plants for basic experience or to work in sales offices. This training for sales personnel is further augmented by formal training methods.



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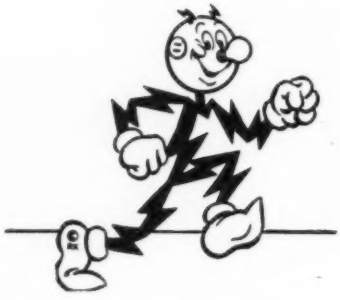

PHILADELPHIA ELECTRIC COMPANY

THE OPPORTUNITY TODAY IN BANKING

A. B. Crouch, *Vice President and Comptroller*
Irving Trust Company
New York

Mr. Crouch, whose responsibilities include the direction of the Personnel Activities of Irving Trust Company, has been Vice President and Comptroller of the Irving for the past two and a half years. Previous to that he was Assistant Comptroller of General Electric Company, which he joined upon graduation from the University of Michigan in 1926. Mr. Crouch's experience in both industry and banking qualifies him to discuss opportunities in Banking from an unusually objective point of view.

OTHERS may disagree with me, but I believe that at this moment the banking business offers the most challenging and diversified opportunities for young people in its entire history in this country. These opportunities are made possible by conditions in the country at large as well as in banking itself.

Two things have happened which have placed new and greater demands on banks. The economy has grown with giant strides since 1929, and huge and highly technical new projects for both civilian and military purposes are requiring large-scale financing. At the same time millions of individuals who never used banks before are becoming an increasingly important market for bank services. At one end of the scale banks are being called on for larger and more complex tasks; at the other, for services for a far greater number of people.

Within the business, meanwhile, we are faced with the prospect of a shortage of able younger people. Following the 1920's, when too many tried to find positions in banking, very few entered any branch of finance in the 30's and, of course, in the first five years of the 40's. As a result, a great many banks today are like a football team with plenty of seniors and only a sprinkling of juniors and sophomores. The future depends directly on the size and power of the freshman squad. That is the second reason why I say banking offers unprecedented opportunities for college graduates today.

What Kind of People Are Wanted?

While banking, especially in the larger cities, requires a wide range of specialists—lawyers, engineers, economists, production men, salesmen and even doctors—the opportunities in quantity are for those graduates who are interested in learning to perform the banking functions with which the public is generally familiar. Regardless of the particular job, however, all successful banking people seem to me to have certain traits in common. What are these? As a relative newcomer to the field myself, I would list three prominent characteristics besides the qualities of intelligence and initiative essential in almost any field. Bankers are business-minded. They have a high degree of integrity. And they like to deal with people.

By "business-minded" I mean two things. People in almost all bank jobs must feel reasonably at home with figures—and, more importantly, they must look at problems from a practical business point of view. This should be self-evident, but I mention it here as a caution to persons who may have strong theoretical interests they wish to pursue.

Integrity has high importance in banking because of the extremely confidential and personal relationship the banker has with his customers and the responsibility he carries in business and community affairs. Dealing with other people's money and acting as financial counsel for other concerns, the banker must conduct his own business on the highest plane.

Like Caesar's wife, he must be completely above suspicion.

The third characteristic, which I have termed "liking to deal with people," is important because banking requires close contact with many kinds of customers, cooperation with the many different personalities within one's own organization and, often, participation in outside groups such as civic and trade organizations.

What Are the Rewards?

If a man with intelligence and ambition has these other traits, too, he is probably well fitted for work in a number of businesses. What, then, are the attractions that might lead him into banking?

Perhaps the most important is that each person entering banking can find a challenge to match his own abilities. The banking business is a tremendous ladder of opportunities, and those who move up this ladder find themselves well rewarded. Nor does a man have to be the exceptional one-person-in-a-thousand to earn success. The *Time* magazine survey of college graduates which is reported in the book entitled *They Went to College* gives statistics on the salaries being earned today in different industries. The survey found that "proportionately more graduates who went into banking have reached the $7,500-and-over bracket than the men in any other business."

As favorable as these figures are, they are not the whole story, according to another survey. The Chamber of Commerce of the United States recently noted that, on the average, the banking industry spends for every $100 of salary an extra $24 to provide indirect benefits such as insurance, medical, surgical and hospital coverage, vacations, holidays, profit-sharing bonuses and retirement plans. These payments, important as a measure of good working conditions and especially attractive in in era of high income taxes, run about 50% higher in banking than in industry as a whole.

Intangible Rewards Are High

And there are attractive intangible rewards, too. I am hardly betraying a secret when I say that most bankers particularly prize the positions of trust and responsibility they hold in their communities. The security and stability of banking jobs are also a factor for many. Banks are generally known for the steadiness of employment they offer their regular staffs.

And, finally, banking provides skills and training that can be utilized almost anywhere. With nearly 15,000 banks in the U. S. as a possible market for his services, a well-trained bank man has no fear of being caught because of some unfortunate local economic change. As they grow older, some bankers take advantage of this broad market for their skills by moving to towns or regions where the living is easier.

Training Added to General Education

The education needed for a banking career will depend, to some extent, on the particular field of banking selected. However, training in the liberal arts with major studies in business administration, economics, money and banking, finance and accounting is good basic equipment for almost any future banker. With this background, the individual is ready for the more specialized studies required by the specific field that he chooses to enter.

The methods used by banks for training on the job depend both on the size of the bank and on the job objective in view. Such specialized phases of banking as trust administration, security analysis and foreign trade relations require training programs quite different in content and scope from one directed toward more general banking work.

A Typical Training Program

In the Irving Trust Company we have a fairly formal training program for most of the positions staffed by college graduates.

Let's take the on-the-job training in our Credit Department as an illustration.

The trainee begins as a credit investigator. Here he learns how to check on the credit standing of individuals, corporations and industries. He actually visits other banks, digs into various financial and credit publications and reports and goes into the field to obtain financial information at first hand. The results of his investigations are then summarized in a report for the use of the bank and its customers. After some experience in this field, he moves into another section where for a few months he conducts correspondence in connection with inquiries about credit.

When he has mastered the technical and legal aspects of this preliminary training, he is ready to enter one of the most important phases of his program—credit analysis. This requires thoroughgoing analysis of financial statements and a broad study of the economic and financial history of corporations and, in some cases, entire industries. From these studies he learns to arrive at an appraisal of a risk when a complex credit question arises. In this activity, moreover, he works very closely with the bank's loaning officers and becomes familiar with the mechanics of loan administration, as well as the loaning policies of the bank. Hence, he has an excellent opportunity for developing and demonstrating his ability and credit judgment. Usually he continues as an analyst until he has mastered this work and is ready for another move.

Specialization Begins

The next step is often a decisive one. It may take him through any of several doors. He may now elect to train as a specialist in credit work for a particular industry such as public utilities, moving picture producers, finance companies or any of a number of others. His training will then be directed toward giving him a complete knowledge of the industry selected so that he will become expert in appraising the risks involved in extending credit to companies in his specialized field.

Or he might choose the path that leads to becoming a "representative" of the bank, traveling throughout a specific territory to serve present customers and seek new ones by demonstrating how the bank can furnish valuable assistance in handling various financial problems. If this is his goal, further training in banking operations is required to equip him to serve the customers most effectively.

There's Also Administrative Work

Nor are the credit jobs the only goals that graduates can point for. Some may be interested, for instance, in administrative operating positions. Just as a large manufacturing plant must have its superintendent or works manager, each major department or branch of a bank must have an executive capable of directing and supervising the staffs which are needed to perform the day-to-day operations of the bank. Qualifications for such managerial positions are a good over-all knowledge of banking operations plus the important qualities of leadership which will enable him to get along with and develop people while earning their cooperation and loyalty.

The trainee interested in a position of this kind must spend the time necessary to develop a good working background in each of the principal operating departments of a bank. For example, he might start as a teller to become familiar with handling money, cashing checks or accepting deposits and examining signatures. This work would also give him an opportunity to meet the bank's customers at first hand and learn something of their problems. His next stop might be in the Bookkeeping Department where he could observe how customers' checking accounts are handled; he would see and participate in all of the work in this department from the sorting of the incoming checks to the mailing of the customers' statements at the month's end. He

might then devote some time to the Foreign Exchange Department so as to learn how the bank provides foreign currencies for its customers and to become familiar with the variety of other services performed. From there he might progress into the Loan Operations Department in order to learn how loan agreements are administered and how collateral is protected.

After the trainee has been through these and the other operating departments and has demonstrated an understanding of their functions and operations, he is ready to be considered for a key position either in one of the large operating departments or perhaps in a branch office.

Other Fields

In some banks, broad operating experience can also be gained by an assignment in the Auditing Department. This involves visiting and checking the activities of almost every department and branch office of the bank. As might be expected, this provides a fine opportunity to gain a well-rounded knowledge of every phase of banking.

There are also other, and more specialized, fields that many graduates will want to consider. Since each has its own special training requirements, I will only suggest the nature of the work which is carried on in a few representative fields.

Personal Trust Departments handle, among other thangs, the administration of estates, trusts and advisory custodian accounts. This field requires considerable legal and technical knowledge and offers many opportunities for close personal contact with customers.

Corporate Trust Departments serve to relieve corporations of many of their bookkeeping and financial problems, such as acting as trustee of bond issues, transfer agent for securities and disbursing agent for dividends. These important activities require a certain amount of legal and technical knowledge, as well as the ability to deal easily with customers who are themselves well versed in this technical field.

Investment Departments are concerned primarily with the analysis of securities for customers and for the bank's own account. Studies are also made of economic trends for the purpose of determining their effect on the business of both the bank and its customers. The duties require a knowledge of corporate finance, economics and the security markets.

There are other jobs and combinations of jobs in virtually every bank. The point to be made here is that banking now offers a variety of attractive opportunities to the business-minded graduate. If he does his work well, he will find that advancement can be rapid, that the financial rewards can be great, and that the banking profession offers much in the way of personal satisfaction.

★ ★ ★

NEW ENGINEERING CAREER BOOKLET AVAILABLE

The new color-illustrated booklet, "Engineering—A Creative Profession," published by Engineer's Council for Professional Development is now off the press and available from their headquarters, at 29 West 39th Street, New York 18, N. Y. Price is 25c per copy with 20% discount on fifty or more copies in bulk.

This excellent portrayal of the Who, What, Where and Why of engineering has been produced to replace "Engineering as a Career" (now out of print) as the basic guidance pamphlet for the engineering profession.

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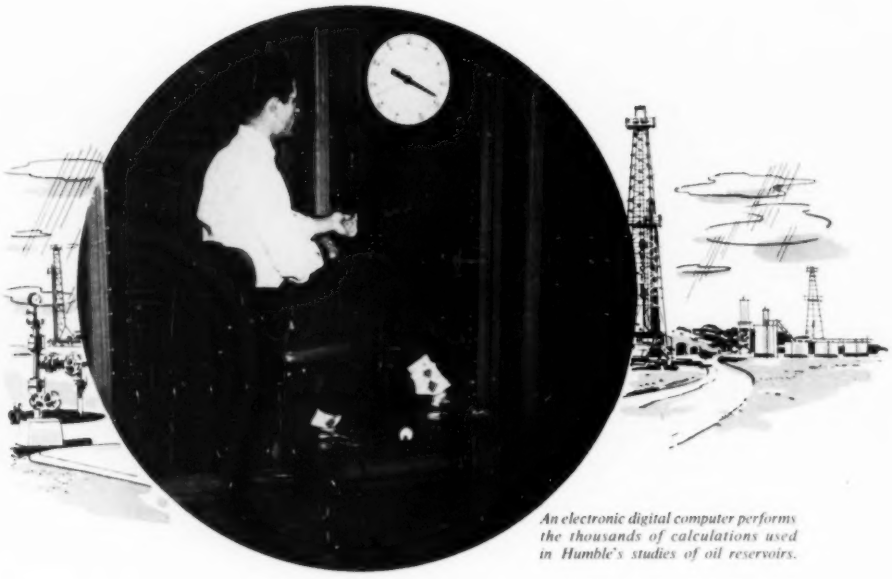

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A PROGRAM FOR ENGINEERING STUDENT PLACEMENT

B. E. LAUER, *Head, Department of Chemical Engineering*
University of Colorado, Boulder

After being employed by Northern Paper Mills and Crown Zellerbach Corporation, Dr. Lauer taught for seven years at North Carolina State College before coming to the University of Colorado.

During World War II, he served in the Rocky Mountain Arsenal and the Office of the Inspector General. He is now a Lieutenant Colonel, U.S.A. Res. Chemical Corps. He is also a graduate of the Command and General Staff College.

Dr. Lauer is a member of many professional and honorary societies including American Chemical Society, American Institute of Chemical Engineering, American Society of Engineering Education, Sigma Xi, Phi Lambda Upsilon, Sigma Tau and Gamma Sigma Epsilon.

***He is co-author with R. F. Heckman of* Chemical Engineering Techniques.**

THERE are those of us who were graduated from college in the early thirties and who have had some contact with placement activities in the years since who view with amazement the present recruiting programs for the employment of college graduates. Where our own first experience took into account a keen competition between graduates for a very few jobs, the graduates today are finding a spirited competition between firms for their favor. Neither situation is one which promotes a feeling of security and satisfaction, further neither is the status of affairs in student placement that we should like to imagine as being normal, and yet how infrequently in the past score of years has there been a time when there has not been either too many or too few engineers.

Certainly the present relationship is held in the highest esteem by the student group. As satisfying as current recruiting practices must be to the graduate, we still feel that they leave much to be desired, and as they influence the graduate's future, may eventually be as harmful to him as was the uncertainty during the depression years.

We are of the opinion that something should be done and that with adequate planning something can be done to restore order to what is now a rather chaotic program of recruiting engineering graduates.

The Problem

To be specific, the instructors of our senior courses have been quite disconcerted to find that their classes have been sporadically attended, the absentees usually having the perfectly valid excuse of an in-plant interview to explain absences. Since we have concentrated the bulk of the student's professional work in the senior year we are thoroughly concerned about this haphazard attendance. The actual work which is missed may, in some cases, be serious, and the attitude developed by the student as a result of his feeling of being in great demand has created problems of considerable magnitude.

Hence we have undertaken to examine critically placement activities to see how they may create or stimulate problems of student attitudes and preparation. Obviously many of the problems are of a normal or recurrent nature, about which recruiting practices, good or poor, can do nothing. Others are definitely products of the time. Problems in both categories may, however, be aggravated by the present placement program.

In addition to the absenteeism, a vital problem which is a direct result of the many invitations some students receive to visit plants at company expense, and which results in a loss of instruction time, general confusion and a

rather inflationary pressure on student ego, there are several other problems which confront the student himself and his relationship both to the university and to his prospective employer.

One of these is the result of the fact that the better students often receive offers of positions early in the year. These students must either carry these offers for months, and often they are encouraged by the company making the offer to do just that, or they are required to accept or reject an offer before they have had an opportunity to see more than a few other interviewers. Even though the company may suggest the postponement of a decision it is impossible for us to see how such a plan can be desirable for either the student or his prospective employer. The sheer necessity for making a decision as important as this, even though it may be postponed, can be a deterrent to good study. Deferring the necessity for a decision doesn't particularly lessen its disturbing effect. If, on the other hand, the student does accept or reject an offer he often regrets his decision and will, in these times at least, be more inclined to reject an offer made early in the year rather than to accept it.

Another problem, and to us one quite as real as the other, affects our average or less-than-average student. All these graduates find work somewhere. Although all of them, by the time they are seniors, have experienced disappointment often in connection with grades, it must be quite a psychological blow to be repeatedly passed over by the interviewers, all of whom are competing for the favor of the top four or five seniors. Frequently, when asked why they haven't seen interviewers, seniors in this group have replied to the effect that interviewers weren't interested in seeing them so they had felt that an interview would be a waste of time.

Finally, we feel that the entire program is one of considerable confusion. Although we are as interested in seeing our graduates properly placed in engineering positions as we are in any other phase of their academic career, we are practically helpless even to follow the hiring program, much less able to give any intelligent assistance. Students leave the campus at will, receive offers, accept or reject them, all without any control and often without our knowledge. We are asked to supply information piecemeal which is tabulated in much better form and is available to all firms later in the year. We have written additional recommendations for seniors whom we have known had already had several offers, and have even known students to arrange for interviews after they had accepted a position with another firm. After a few years of this sort of program, the general reaction is either one of complete frustration, or of an increasing conviction that something must be done to bring some semblance of order into the program.

The Proposal

We feel that, once the problem is recognized, a reasonably simple solution to it can be achieved. One of the best methods of securing an answer to a problem is through the actual proposal of a solution. In the discussion of the faults of an initial proposal a second, or third, or some subsequent plan often is evolved which is completely acceptable.

The proposal, therefore, which we wish to make is to have companies to agree to postpone in-plant interviews and actual job offers until after some deadline date in mid-spring. This is, perhaps, an oversimplified description of a plan, but has, we believe, the basic elements of a practical solution. We do not suggest any change in the no-campus interviewing program; we feel that it should continue to be conducted both in time and in method as it is presently.

The Anticipated Results

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versity classes—that of absenteeism. All of our students who would be away on in-plant interviews would be gone at the same time and would be able to combine several such interviews, if necessary, into a single trip. The erratic come-and-go class attendance would thus be corrected. The student would be able to concentrate on his studies knowing fully well that he would not be called upon to make a decision regarding his work prior to the conclusion of the on-campus interviewing phase, and he could see as many of the interviewers as he wishes and thus get a complete picture of the employment situation before he is required to reach a decision. Finally, while our lower-than-average group is still going to have to endure some disappointment, it need not be a year-long continuously discouraging experience. Further, we feel there would actually be much less disappointment suffered by these students because many of them favorably impress interviewers if they talk to them.

Such a program would give the people in the universities an opportunity to assemble personal data sheets, student evaluation records, and other pertinent information about the students before the material is actually required by the various companies rather than having to put it together hastily and individually for each company making the request. There would no doubt be a few weeks of feverish activity immediately following the initiation of the in-plant interviewing schedule, but we are rather certain that a short period of concentrated activity would be much more acceptable than the longer and confusing period we now spend in placement activities.

It is not always easy to project our reasoning into problems with which we are not too familiar, but it appears to us that industry, too, might benefit from a more orderly program of college recruiting. Such benefits as the following might very well accrue to plants participating in a plan of this sort.

1. Students they hire would be somewhat better trained in their professional work because of less interference with scholastic activities in their senior year.
2. In-plant interviewing trips could be cut to one or two per student, thus materially reducing the cost of the multiple trips which some students are now taking.
3. Requirements for new graduates could be projected in March or early April rather than in the preceding November or December, thus providing a much more accurate recruiting program.
4. Students would not be able to wait for months before accepting or rejecting an offer. Thus, personnel availability could be much more accurately compared to personnel requirements. Students are sometimes unconcerned about releasing other offers after they have accepted one.
5. On-campus interviewing trips could be planned by the interviewer to be more convenient to his requirements. While earlier interviewers might be at somewhat of a disadvantage, this would not be at all pronounced, and all interviewers throughout the interviewing period would be guaranteed an attentive audience.
6. The hiring portion of the placement program could be concentrated in a few weeks at most, thus interrupting normal plant operations to entertain prospective employees for a much shorter time than does the present extended program.
7. All new engineering graduates in which the company was interested could be brought together at almost the same time so they could be compared by the plant management while they were in a group or while the memory of the quali-

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fications of earlier interviewers was still fresh.

8. All rating forms, recommendations and other pertinent data about the students could be assembled and sent to the plants before the in-plant interview.

9. All students would be attentive to all the personnel men, not knowing in advance which interviewer might be the one attracted to him. A senior with two or three job offers in December is likely to become very nonchalant in his relationship with later interviewers.

10. The whole program would be systematic, could be planned and executed in a fashion similar to the planning for other industrial operations, should be more economical, and should avoid the necessity for multiple trips by interviewing personnel and the general confusion which now seems to exist.

The Reaction to the Proposal

Acting on the premise that such a plan was a practicable one for creating a program for correcting some of the problems of recruiting, we outlined this proposal and our opinion of its benefits to a number of our friends in the personnel departments in industry. This poll of opinion showed some rather interesting reactions. We anticipated a rather mixed response, and that is exactly what we received. The replies varied all the way from complete agreement with our proposal and the assurance of assistance in the inauguration of any program of this character to complete disagreement with even our premise that there are any problems created by the placement activities as they are now conducted.

We sent seventy-four letters and had a total of fifty-four replies, rather an excellent return since the replies in most cases required considerable time and effort on the part of the men writing the letter. Of these, nineteen replied that they and their companies would be willing to help institute and support a program to improve placement procedures. An equal number of replies were negative in character, and the remainer, sixteen, were noncommital. These last sixteen suggested that while they thought changes would be desirable, and that the program which had been suggested had merit, they doubted that enough companies and schools could be induced to cooperate to make any material change in the procedures.

The comments of some of those who replied in the negative were most interesting. Several negative replies came from an obvious misunderstanding of our statements, others from the fact that it was assumed that our proposal was a definite program in which many details had been overlooked rather than an idea from which a workable plan was to be evolved. Since is is almost impossible to describe anything in which someone cannot read into the description ideas other than the one which was intended, objections to the proposal based on a misconception of what we had in mind are the stage of the development of the proposal could probably be overlooked. For example, one reply indicated that the writer thought it would be presumptious of us to attempt to control the visits of employers to our campus, and although we have critically reviewed our letter of inquiry, we have not been able to read one line which might even hint that we had any such objective in view.

One of the most valid objections, other than the one that no plan would be operable without general acceptance, which of course, is perfectly obvious and legitimate, was the objection advanced by a personnel man hiring students for one of the A.E.C. projects, where it takes several months to get security clearance for a new employee. Another objection of a vital nature which was offered was that the number of new employees added each year

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made it impossible to have them all come to the plant for interviews within a three or four-week period. And yet, the personnel director of an even larger corporation indicated that the concentration of in-plant interviews into a shorter period was one of the more desirable features of such a program. Another personnel representative stated that late in March or early in April would be too late to wait for acceptance of offers, and then qualified his statement by the comment that most of the students to whom offers were made at an earlier date usually waited until about then anyway before arriving at a decision.

It was interesting to note that none of the several points which were listed as advantages to industry were disclaimed by all concerned as being of no importance. It is also interesting that no one has suggested that we might be raising an issue over an inconsequential point in wanting our students to attend classes regularly during the most of their senior year.

Quotes from several of the letters sent by those who wanted to help us work out a program are indicative of the general attitude of this group. For example, one supervisor of personnel writes ". . . the program you have presented is something we have been advocating for the last five years ever since we became involved in a highly competitive 'rat race' of recruiting in colleges and universities throughout the country." Another writes—"Several of us have read your proposal. We all feel it is a good one and agree it will benefit industry, university and student alike. You may count on our cooperation, particularly as it relates to the in-plant interviews and job offers. At present, the only suggestion we have is that your program, or a similar one, be adopted by the other branches of engineering. Certainly your taking the lead will set a fine example." And still another—"if this program could be worked out, it would definitely be of help to us. It has been difficult for us to anticipate in November what our personnel needs will be in June with any degree of accuracy. Concentrating in-plant interviews and job offers to a shorter period toward the end of the student's most important academic year should certainly be less confusing to him and would afford us in industry an opportunity to do a more intelligent job of selection and placement."

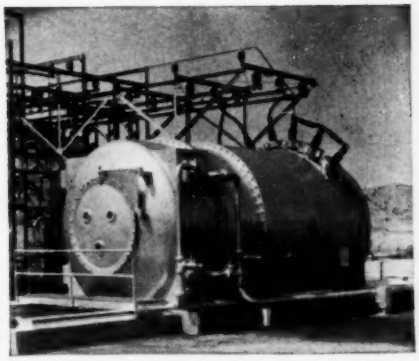
The Conclusion

We are thoroughly convinced that there are problems in recruiting which deserve attention and that a solution to some of the problems can be obtained. We are also convinced that a program based on a plan similar to the one suggested can be made a practicable one, and although it would be unworkable if only one institution attempted to do it, it could be developed into a smoothly functioning program if a number of leading industrial organizations and universities would agree to cooperate in it. We are of the opinion that once several had agreed to a program of this sort, most of the remaining firms and universities would follow suit.

We are aware that many details of operation of such a program would have to be worked out, but are positive that the problems relating to its actual functioning can be solved.

We are, therefore, presenting these problems and our suggestions for a program in the hope that they will be widely discussed this year, and that by another year some program designed to alleviate some of the major difficulties of graduate placement will have been arranged. We certainly agree with one of the men who replied to our proposal that "a rational program of placement could be of continued benefit to both industry and student even in normal periods of personnel requirements."

Wide Choice Helps Make Wise Decision



This large synchronous condenser was built by Allis-Chalmers to stabilize the transmission system of a western utility. A-C builds nearly everything for both steam and hydraulic powered power systems.

HERE IS WHAT Allis-Chalmers Graduate Training Course offers your engineering graduates. During a two-year course of study and work, the GTC student touches upon the operations of nearly every basic industry. He may work on major equipment for electric power, mining, cement, agriculture, food and chemical processing, steel and many other industries.

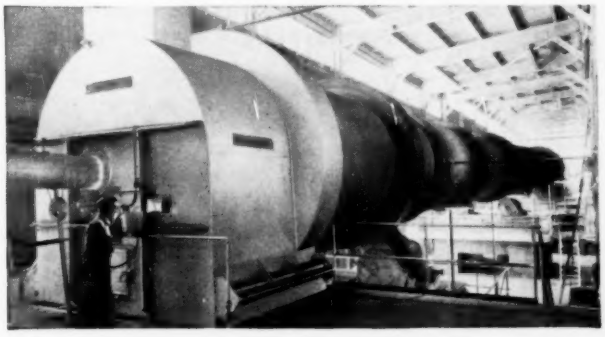
The graduate student at Allis-Chalmers has an opportunity to see industry problems from many angles; research, design, production, application engineering, sales, erection and service, for there are training locations in every one of these sections. He has an opportunity to work on various jobs so that he can choose better when he is ready for a final choice.

Independent Choice of Subjects

The trainee has a free choice of the departments in which he will train and what general type of work he will do. At any time he is free to make any changes he may wish in his curriculum. He is aided in making wise choices by personal counseling and guidance. Company executives take a strong interest in the GTC program because many of them are graduates of the program, which began in 1908. Allis-Chalmers GTC program is large enough to afford complete training and at the same time small enough to assure individual attention to each trainee.

Be sure that your engineering students are informed about the wide variety of opportunities available at Allis-Chalmers. The nearest Allis-Chalmers District Office will be glad to give complete information on the course, or write to Allis-Chalmers, Milwaukee 1, Wis.

A-3560



This cement kiln is typical of the type of major equipment Allis-Chalmers builds for the processing industries. In the allied mining, quarrying and rock products fields, Allis-Chalmers also produces many types of heavy machinery. Allis-Chalmers produces major equipment for nearly every basic industry.

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American industry has the world's most extensive research and engineering facilities. At International Harvester, where we must depend upon the best of engineering talent to engineer our essential products, we have greatly enlarged and improved our research and engineering facilities in recent years.

TODAY, International Harvester Company has more research and engineering projects underway than ever before. Here indeed is opportunity in full measure for the engineering graduate!

We need mechanical, industrial, metallurgical, chemical, agricultural and electrical engineers. We need engineers for training programs, for product designing, for testing programs, for research and experimentation in nearly all IH divisions.

The engineer who comes to Harvester invests his education in a sound, well-managed, progressive and growing company. He becomes a key figure in helping to supply the machines that underwrite the production facilities of the nation's most vital industries.

If you are interested in a career in the engineering fields mentioned above, with a good, progressive company, then we suggest you write to F. D. MacDonald, Education and Personnel Department, International Harvester Company, 180 N. Michigan Avenue, Chicago 1, Illinois.

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Builders of farm equipment for easier, more profitable farming . . . trucks for better transport industrial power for road-building and earth-moving . . . refrigeration for better preservation of food

PLACEMENT IN THE ALUMINUM INDUSTRY

W. S. IDLER, *Director of Technical Placement*
Aluminum Company of America
Pittsburgh, Pennsylvania

In his present position, Mr. Idler is responsible for the recruiting of personnel for the sales, technical, research and production departments.

He began his career with Alcoa in the Production Division of the New Kensington plant. He was later transferred to the New York Sales Office.

Mr. Idler received his A.B. degree in Business Administration from Colgate University.

FROM relative obscurity to its present position of leadership in volumetric production of the non-ferrous metals, and second only to iron and steel, this is the amazing story of the growth of the aluminum industry during the past half century. The birth of the aluminum industry was made possible by the discovery of a young researcher, Charles Martin Hall, of an economical electrolytic process for reducing aluminum oxide to aluminum metal. Research and scientific development have been the moving forces behind the rapid growth of an industry that was a latecomer in the world of metals. As the result, by far the greater number of technical and administrative personnel in the aluminum industry have come into the industry with engineering backgrounds.

Growth of the Industry

The commercial possibilities of Hall's development in the late 19th century were recognized and promoted by the Pittsburgh Reduction Company (now Aluminum Company of America), the original producer under his process. The early years were devoted to intensive engineering and sales activities aiming toward the extension of aluminum's application in manufactured products. The first real introduction of the metal to the public was through aluminum cookware; traveling "pots and pans" salesmen have been frequent visitors to American homes since the turn of this century.

Five periods of market development can be cited for the aluminum industry. From the first commercial production under Hall's patents in 1888 until World War I, the primary growth in aluminum applications was cooking utensils, electrical conductors and the transportation field. During World War I military applications ranging from many parts of the famous Liberty engine to canteens and mess kits spurred consumption of aluminum. During the period between 1919 and 1939, new alloys improved products and fabricating techniques and reduced prices contributed to steady growth of the metal in many diversified markets. The great bulk of aluminum production during World War II, by necessity, was devoted to military applications and developmental projects.

The Industry Today

The present phase in the history of the aluminum industry is in some ways the most interesting. By 1946, the first full postwar year, the production of the aluminum industry had expanded 250% over its 1939 output. Through continuing research and development activities, the expanding production during the next four years was quickly consumed as aluminum was widely accepted for a growing number of civilian applications.

Following the outbreak of the Korean War, the increased requirements of the defense program curtailed the supply of aluminum available for civilian purposes. To meet the increased military demands and to obtain more metal for civilian manufacturers, the

aluminum industry is now in the midst of a tremendous expansion program which will more than double the nation's pre-Korean production capacity by 1954. As these new facilities rapidly increase their output, more aluminum is becoming available for civilian applications. The price of aluminum today is only slightly above its 1939 figure, whereas the price of other competing metals has risen substantially. This favorable price relationship, plus an excellent long-range supply outlook augurs a brilliant future for aluminum in transportation, building construction, and the electrical field—to mention only a few.

If the phrase "young man's industry" can be applied anywhere, it certainly fits the aluminum industry. The number of primary producers (makers of virgin metal) is expanding, as is the capacity of those now producing. Producers of fabricated products—foundries, forge plants and the like—are on the increase. New production facilities, new sources of ore, new techniques, new markets; all add up to a "growth" industry.

Figures generally cited for employment in the U.S.A. run to some 1,000,000 persons employed directly or indirectly by the industry and its products! Some 30,000 people are employed by the primary procedures alone; several hundred thousand are employed by fabricators. And these figures do not even reflect the inevitable effect of the present expansion program. Every expectation is that employment throughout the aluminum industry will continue to increase.

Processes

The scope of this article will be to include in the term "aluminum industry" all phases of operation from mining through the fabrication of semi-finished and finished *aluminum* products, but not the end user. For example, a foundry involved in casting an aluminum sole plate for an electric iron would be a part of the industry; but, by this definition, the electrical appliance manufacturer utilizing these sole plates would not be a part of the industry.

There are four steps in the production of aluminum. These are mining the ore (bauxite); refining the bauxite to obtain the basic raw material, aluminum oxide (alumina); electrolytic reduction (smelting) of the oxide to separate the oxygen and recover the aluminum metal and fabrication of the metal into marketable form. The total employment is greater in each of these succeeding productive steps.

The first phase includes both exploration for ores and the mining operation itself. Also involved is the study of ore quality. Milling and drying operations accomplished subsequent to the mining of ore is another part of this phase of production.

Refining involves chemical treatment of bauxite ores to obtain alumina by removing impurities such as silica and iron. The development and control of process is the prime factor. Many chemical products are also produced as a part of the refining operation.

Smelting of alumina yields the metal in pig form. Two factors—process and power—are the keys to the smelting operation. Accurate controls over process are necessary to produce quality products; process improvement is a constant concern of the industry. Power is particularly significant; exploration, development of new methods and installation and operation of power plants is a continuing activity. Alloy development and research is a part of this and of the fabrication phase of the industry, as is the establishment of new facilities for production.

Fabrication is the most diverse activity of the aluminum industry. Aluminum can be rolled, cast, forged, extruded and drawn. It is produced in a myriad of forms: sheet, plate, foil, wire, rod, bar, extrusions, drawn tube, paste and powder, forgings, die castings and sand and permanent mold castings. All of the

★ The Role Of The MECHANICAL ENGINEER at PHILCO!

The Mechanical Engineer in Philco's research and engineering organization plays a significant part in the success of the overall engineering team.

In The ELECTRONIC LABORATORIES

. . . his knowledge of motions, stresses, linkages, tolerances, fits, manufacturing methods and processes, shop practice, castings, forgings, tooling and methods —along with his imagination and flair for design and his ability to organize work and get the job done—are utilized constantly in solving challenging mechanical design problems.

He is called on to bring continuing improvements in appearance, performance, cost, size and styling on products ranging from the small element in a vacuum tube to a radar system the size of an airplane.

At every step of the way in the design, development and production of electronic equipment, there are mechanical problems to be solved.

In The REFRIGERATION & APPLIANCE DIVISION

. . . there is also ample opportunity for the mechanical engineer to demonstrate his talents, skills and creativeness.

Here, the engineering problems vary from the formation and welding of sheet metal to the production of a compressor used in a refrigerator.

Almost all household appliances are concerned with heat—either its generation and use or its removal from a space. Thus, the heating unit in an electric range is almost entirely a mechanical engineering problem.

Refrigerators and air conditioners are complex mechanical devices with the major engineering problem of moisture control.

In the appliance and electronic field, also, the mechanical engineer has the unique problem of building a product that will operate 10 to 15 years without attention or excessive service costs.

The Mechanical Engineer at Philco

. . . works in a relatively small, closely knit group where each member of the group sees and works on the entire project, and where recognition is given to each individual for his contributions.

Qualified graduates interested in the ***important positions available*** for mechanical engineers at Philco are invited to write for additional information.

PHILCO CORPORATION

Philadelphia 34, Pa.

technical skills reflected by these many processes are utilized by the industry.

Marketing is not of itself a part of the "production" of the metal. Sales engineering personnel comprise an important segment of the college-trained men in the industry.

Demand for College-Trained Personnel

The major fields for college-trained personnel in the industry can be grouped into four categories: engineering and production, research and development, sales and non-technical and administrative.

Engineering and Production

The field of engineering and production requires the largest single group of college graduates in the industry and consistently offers opportunities to mechanical, metallurgical, industrial, chemical and electrical engineers. To a somewhat lesser degree this field also offers attractive opportunities to civil and mining engineers.

Mechanical engineers are employed throughout the industry. The design, development, installation, operation and maintenance of all types of mechanical equipment encompasses a wide scope of activity. Currently, for example, the development, installation and operation of huge equipment such as forging and extrusion presses presents the maximum challenge to the ingenuity of mechanical engineers.

Product quality control, alloy development and testing methods of heat treatment and forming and establishment and maintenance of fabricating practices are the responsibility of the metallurgical engineer. The job of the metallurgical engineer in the aluminum industry is not routine. The increasing importance of high-strength alloys in the transportation and construction fields, and the need for alloys with high resistance to corrosion in the rapidly expanding chemical and marine industries are but two examples of the interesting problems confronting the metallurgical engineer.

The industrial engineer is employed in all phases of the industry, but most demand for this training exists in the fabricating branch. Accurate time study interpretation, job and work simplification, product cost studies and plant and equipment layout are typical activities of the industrial engineer. This expanding and highly important field of engineering is making an ever-increasing contribution to the improvement of production techniques throughout all industries.

The refining and smelting operations of the aluminum industry offer diversified opportunities to chemical engineers. They are involved in many problems dealing with the development of products, processes, equipment and the production and application of chemical products.

Economic electric power is a prime concern of the aluminum industry. The electrical engineer interested in the generation, transmission and utilization of power will find a broad outlet for his educational training, principally in conjunction with the smelting operation. The decreasing availability of economic power sources is both a major problem for the industry and an interesting challenge for the electrical engineer.

Research and Development

Research and development activities have played a prominent part in the growth of the aluminum industry. This field provides specialized opportunities in pure and applied research for men with undergraduate and graduate degrees in electrical, mechanical, metallurgical and chemical engineering. Physical and analytical chemists also perform vital research activities.

In the industrial sales field the graduate finds opportunity both in direct sales and in sales and service engineering. In addition to all types of engineering graduates, some non-technical men are employed to develop and

Main plant of The Timken Roller Bearing Company, Canton, Ohio

What every college placement officer should know about The Timken Roller Bearing Company

SIZING up a company for students isn't an easy job. Here are some facts about our company that will help you advise your students.

We made the first tapered roller bearing back in 1899—when automobiles were just starting to roll down American roads. As more and more cars were sold, more and more Timken® bearings were used. So many, that to get enough high-quality steel, we had to build our own steel mill in 1915.

Since then, we've pioneered bearing applications for industry after industry: mining, logging, machine tool, aviation, farming, railroad, construction and oil field equipment, to name a few. Every industry uses Timken tapered roller bearings. And today, The Timken Roller Bearing Company is the world's largest producer of tapered roller bearings and removable rock bits and is a foremost producer of specialty steels.

What can we offer your engineering and metallurgy graduates? The opportunity to grow with a company that has always pioneered new ideas, new methods, new products and new markets. A training program that fits the training to the man, right on the job. The chance to do important work in an important industry and advance as far as ability permits. *Every* man in an executive or supervisory position at the Timken Company—including the president—has come up through the ranks.

The Timken Company's aim is to make the best bearings, the best steel, the best rock bits with the best people working under the best conditions. The Timken Roller Bearing Company, Canton 6, Ohio.

For more information about The Timken Roller Bearing Company, its training program and the employment possibilities for your students, write for your free copy of the booklet, "This is Timken". The Timken Roller Bearing Company, Department JC, Canton 6, Ohio.

THE TIMKEN ROLLER BEARING COMPANY

TAPERED ROLLER BEARINGS • ALLOY STEEL & SEAMLESS TUBING • REMOVABLE ROCK BITS

create markets for aluminum. (See "Sales Prospects in Aluminum for the Graduate Engineer," W. S. Idler, SCHOOL AND COLLEGE PLACEMENT, VIII:3, March, 1948.)

The non-technical and administrative opportunities in the aluminum industry are comparable to those in other basic industries. Business administration and liberal arts graduates are used in the fields of accounting, personnel, industrial relations, non-technical sales, sales administration, public relations, advertising and finance.

Continuous challenge, broad opportunities, and promotion and stability are the rewards for those seeking a career in the aluminum industry. Its dynamic growth in the past half-century has created outstanding opportunities for the college graduate.

★ ★ ★

COMING MEETINGS . . .

Midwest College Placement Association
September 15, 16—Hotel Pfister, Milwaukee, Wis.

Eastern College Personnel Officers
October 5, 6, 7—New Ocean House, Swampscott, Mass.

Middle Atlantic Placement Officers Association
October 18, 19—Bedford Springs Hotel, Bedford Springs, Pa.

Southwestern Placement Association
November 13, 14, 15—Rice Hotel, Houston, Texas

Southern College Placement Officers Association
December 2, 3, 4—Buena Vista Hotel, Biloxi, Miss.

TENTATIVE

Rocky Mountain Association of Placement Officers
October 9, 10—Albany Hotel, Denver, Colo.

★ ★ ★

WORKSHOP ON WOMEN'S PLACEMENT

Mademoiselle magazine, in cooperation with Barnard, Connecticut College, Hunter, Manhattanville College of the Sacred Heart, New Jersey College for Women, Sarah Lawrence and Skidmore, will hold a two-day workshop on November 5 and 6 in New York City, to loosen some of the knots in the placement of liberal-arts women in publishing, advertising, merchandising, social service, art and overseas jobs.

Panels of outstanding employers have been selected to discuss practical placement of graduates who say: "I want to write"; "I don't want to sell"; "I want to work with people"; "I want to use my art"; "I want to travel."

College officials responsible for getting college women on the payrolls of business and the professions are invited to register before October 1, 1953, with Workshop Registrar, Miss Margaret Rogers, Manhattanville College of the Sacred Heart, Purchase, New York.

PURDUE UNIVERSITY. Members of the class of '53 look over list of oil company interviewers who'll visit campus during a single month. Oil company representatives search the nation's colleges for seniors who can qualify for a wide variety of technical and non-technical jobs. To get topflight men and women, each oil company must compete successfully with rival oil companies as well as other industries.

MAN HUNT

Oil Companies Compete for the Class of '53

This month, college students throughout the United States are witnessing a fine example of oil company competition at work – right on the college campus.

Representatives of many oil companies, large and small, are now competing for thousands of qualified college seniors to fill a wide variety of jobs ranging from research, production and transportation through refining, sales, accounting and office work.

To the Class of '53, this oil company competition for their services means the opportunity to choose a career in a young and progressive industry. And to America's oil companies, in turn, these young people will bring a fresh supply of topflight talent – talent every oil company is looking for to help keep ahead in the tough competitive struggle for your business.

Today, Americans get the world's finest oil products at the world's lowest prices. This is only possible under a system of free competition where privately-managed oil companies have a chance to earn a profit while serving you.

For a free booklet for college and high school students, "Careers in Petroleum," write to Oil Industry Information Committee, American Petroleum Institute, Box 112, 50 West 50th Street, New York 20, N. Y.

HERE ARE A FEW OF THE HUNDREDS OF COLLEGES WHERE OILMEN SEEK NEW TALENT:

SOUTHERN CALIF. Business major Jim Halverson, son of an oilman, has always wanted a career as an oil company salesman.

CORNELL. Civil engineering major Ron Gebhardt is considering pipeline transport and construction — a vital oil industry branch.

MINNESOTA. Geological engineer Ernest Maki chose job after 7 oil company interviews—sees great opportunities for oil geologists.

M. I. T. Bob Oliver with Doctor of Science, has accepted promising job in research and development for a West Coast Oil Company.

OHIO STATE. Commerce major Mary Uehling is looking for personnel job—will join thousands of young women now in oil industry.

SOUTHERN METHODIST. Korean vet Len Donohoe, electrical engineer, wants to work on electronic gear used in oil exploration.

NOTRE DAME. Interested in labor relations, law senior Bill Roche wants oil company career because he feels industry is stable.

GEORGIA TECH. Basketball captain Pete Silas, a chemical engineer, is talking to 18 oil companies about sales engineering job.

ANSWER: *All of them... and many more!*

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Of all the basic industries of the 20th Century, none has grown so rewardingly as chemicals, now a $9 billion a year business touching every segment of American life. Typical of this growth is the story of Monsanto, a company making some 500 products for 56 different industries. *Monsanto has doubled in size every five years since 1926.*

Imagination, spurred by scientific curiosity, has produced from the company's laboratories a flood of products ranging from new detergent compounds like Actamer* to revolutionary soil conditioners like Krilium.* Of Monsanto's current annual sales volume, almost half derives from products not even in existence a decade ago.

By far the most important of Monsanto's assets are its people—20,000 men and women bringing a myriad of skills to a company that offers them challenging opportunities. Scientists and engineers of virtually every category have been attracted to the 32 plants and laboratories of the company.

An important part of the premier growth industry of the nation, Monsanto holds to the philosophy behind its steady and solid expansion—a philosophy expressed in the slogan, "Serving Industry . . . Which Serves Mankind."

*Reg. U. S. Pat. Off.

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Allis Chalmers Manufacturing Company, 1:41, 2:69, 3:67, 4:59.

Aluminum Company of America, 1:1, 2:1, 3:1, 4:1.

American Petroleum Institute, 4:67.

American Telephone and Telegraph Company, 1:37, 3:17.

American Viscose Corporation, 1:49, 2:71, 3:51, 4:53.

Anchor Hocking Glass Company, 3:73, 4:73.

Atlantic Refining Company, 1:23, 2:25, 3:27, 4:11.

Camp Fire Girls, Inc., 3:45.

Central Trust Company, Cincinnati, 3:49.

Combustion Engineering—Superheater, Inc., 3:71, 4:76.

Connecticut Mutual Life Insurance Company, 1:25, 2:33, 3:28, 4:33.

Continental American Life Ins. Co., 1:30; 2:9, 3:20, 4:16.

Day and Zimmermann, Inc., 1:69, 2:26, 3:10, 4:20.

duPont, E. I. deNemours and Company, 1:18, 2:29, 3:29, 4:29.

Equitable Life Assurance Society of the United States, 4:75.

Fidelity Mutual Life Insurance Company, 1:34, 2:40, 3:14, 4:22.

Food Machinery and Chemical Corporation, 3:16.

Forbes, B. C., & Son, 4:55.

Franklin and Marshall College, 1:32, 2:24, 3:8, 4:18.

General Electric Company, 1:3, 2:3, 3:3, 4:3.

General Motors Corporation, 1:53, 2:13, 3:11, 4:13.

Harnischfeger Corporation, 2:51, 3:60, 4:39.

Harper and Brothers, 3:2.

Hughes Aircraft, 1:63, 2:30, 3:22, 4:36.

Humble Oil and Refining Company, 2:53, 3:65, 4:50.

International Business Machines Corporation, 1:65.

International Harvester Company, 1:11, 2:35, 3:59, 4:60.

International Latex Corporation, 1:12, 2:14, 3:30, 4:24.

Kaiser Frazer Corporation, 1:16, 2:12.

Kansas City Life Insurance Company, 1:9, 2:17, 3:9, 4:19.

Leopold, Charles S., 1:27, 3:53.

Lincoln National Life Insurance Company, 1:28.

Mademoiselle, 1:15, 2:11, 3:15, 4:17.

Massachusetts Mutual Life Insurance Company, 1:21, 2:23, 3:25, 4:9.

Minnesota Mining and Manufacturing Company, 2:75, 3:52.

Monsanto Chemical Company, 3:75, 4:71.

Mutual Benefit Life Insurance Company, 1:36, 2:48, 3:32, 4:27.

National Geophysical Company, 3:37, 4:21.

New York Life Insurance Company, 1, 2, 3, 4, Back Cover.

North America Companies, 1:17, 2:61, 3:43, 4:49.

Owens-Illinois Glass Company, 1:61, 2:45, 3:47, 4:68.

Philadelphia Electric Company, 1:55, 2:57, 3:38, 4:44.

Philco Corporation, 3:40, 4:63.

Phillips Petroleum Company, 1:33, 2:41, 3:35, 4:23.

Procter and Gamble Company, 2:27, 3:33.

Reynolds Metal Company, 1:67, 2:47, 3:63, 4:43.

Royal-Liverpool Insurance Group, 2:55, 3:69, 4:57.

Standard Oil Company, 1:8, 2:18.

Sylvania Electric Products, Inc., 4:74.

Temple University, 1:38, 2:20, 3:12, 4:14.

Thompson Products, Inc., 1:47, 2:43.

Timken Roller Bearing Company, 4:65.

Union Bag and Paper Corporation, 3:37.

United Airlines, 1:43.

United Engineers and Constructors, Inc., 1:59, 2:36, 3:18, 4:30.

United Merchants and Manufacturers, Inc., 1:35, 2:49.

University of Chicago Press, 2:39.

University of Pittsburgh, 1:4, 2:4, 3:4, 4:4.

Vick Chemical Company, 1:31.

Westinghouse Electric Corporation, 1:5, 2:5, 3:5, 4:5.

TYPES OF SUBSCRIPTIONS

Sustaining: Cash contributions ranging up to $200.00, entitling the company or college to advertising space if desired.*

Institutional: Subscriptions for two representatives of an institution to the JOURNAL OF COLLEGE PLACEMENT, $7.00 per year.

Single: Subscription for one individual to the journal, $4.00 per year.

*Sustaining Subscribers not using advertising space include Armstrong Cork Company—Connecticut General Life Insurance Company—Eastman Kodak Company—Socony-Vacuum Oil Company—Sun Oil Company—Towers, Perrin, Forster and Crosby—University of Pennsylvania.

CAREER OPPORTUNITIES

We invite college graduates to investigate career opportunities available with Anchor Hocking Glass Corporation.

Classifications covered by our on-the-job training program include: Accounting, Personnel, Sales, Production, Supervision, Chemistry Majors, and Mechanical, Electrical, Industrial, Ceramic and Design Engineering as well as many others.

Our more than 10,000 employees work in thirteen plants located in Ohio, Indiana, New Jersey, Pennsylvania, Maryland, California and Canada, and in forty-five Sales Offices located in principal cities throughout the United States and Canada. Thus, the graduate has the advantage of working with a smaller group where individual talent and initiative are recognized and where he can be a part of a large organization which offers broad opportunity, economic stability and a sound lasting career.

Products of Anchor Hocking include glassware and tableware for homes, restaurants, institutions, schools, churches and camps; glass containers, metal and molded closures and sealing machines for the commercial packaging of foods, drugs, chemicals, cosmetics, beverages and other household and industrial products. In addition, completely equipped and staffed Engineering and Research Laboratories are maintained.

To arrange for interviews or for further information write:

PERSONNEL DEPARTMENT

ANCHOR HOCKING GLASS CORPORATION

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If steadily climbing sales . . . continuing plant expansion . . . increasing product diversity . . . steadily growing leadership . . . assuring continued leadership through intensive research and development are any indications of a company's success . . .

Then Sylvania is a success story.

From its beginning 52 years ago as a small manufacturer of incandescent lamps, Sylvania has become one of the leaders in *lighting, radio, electronics and television.*

FOR EXAMPLE:

- Sales have grown from $5,800,000 in 1932 to $235 million in 1952; assets from $9,300,000 in 1940 to $176 million in 1952.
- Employees have increased — 3,000 in 1936 — nearly 27,000 in 1952.
- Sylvania has expanded to more than 40 plants and laboratories throughout the nation.
- Sylvania has become: One of the two largest producers of radio receiving tubes, TV picture tubes, and fluorescent lamps; largest producer of photoflash lamps and fluorescent fixtures; a leader in specialized electronics devices; one of top 10 TV set makers.
- Sylvania's research activities in a dozen laboratories throughout the country, including the new 56 acre Research Center at Bayside, N. Y., are contributing major developments to the broad electronics industry.

This is only the beginning.

Sylvania has the drive and vigor of youth. Its success reflects the success of many young men of initiative and ambition who have made the most of the opportunities and challenges presented to aid their professional growth and advancement. Through a policy of decentralization, the company has been able to discover men of management caliber at younger ages . . . the average age of the 190 central and divisional executives at Sylvania is only 44 years.

This is the company that offers college graduates *opportunity unlimited* to build a truly successful, worthwhile career.

SYLVANIA

Electric Products Inc. 1740 Broadway, N. Y. C.

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"A man on his way up"

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For detailed information, write to

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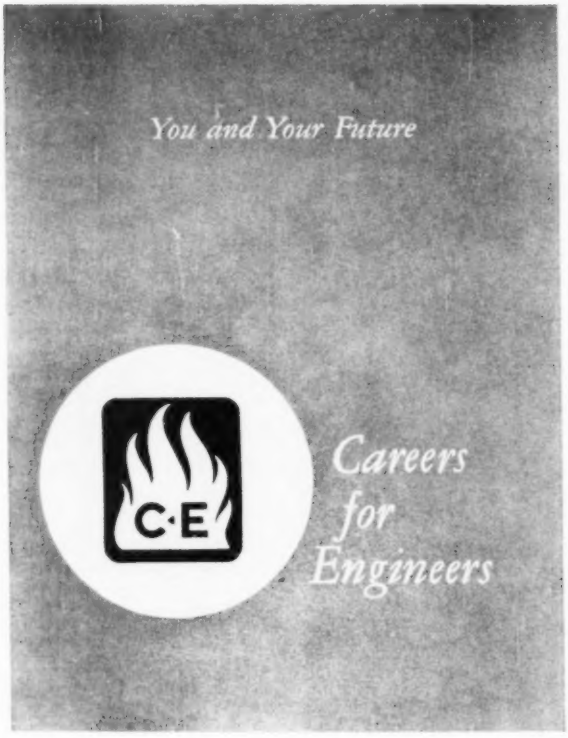

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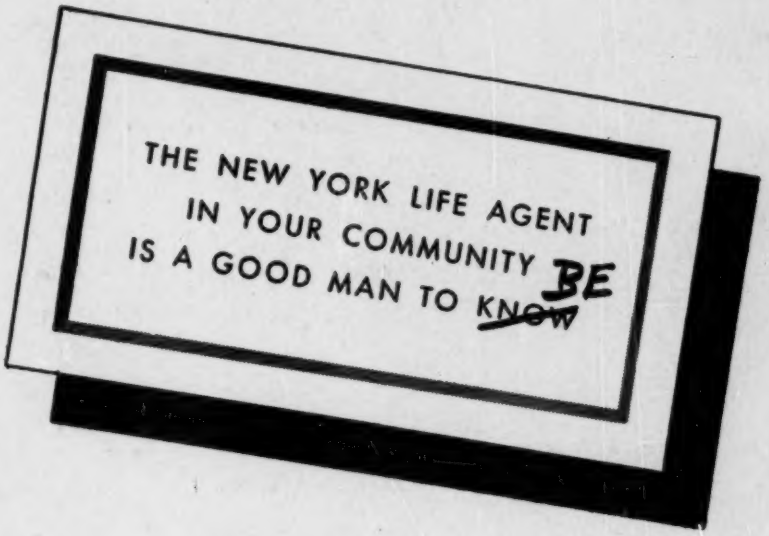

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